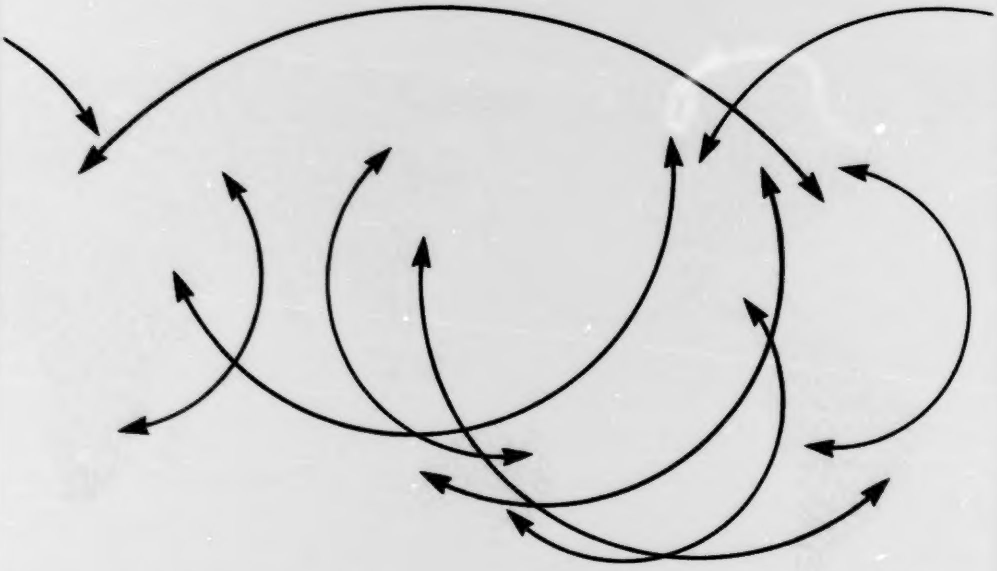
CONFERENCE PROCEEDINGS

TRADED AND NON-TRADED SERVICES: PROBLEMS OF THEORY, MEASUREMENT AND POLICY

EDITED BY:

JAMES J. McRAE

MARTINE M. DESBOIS



88-03436/

The Institute for Research on Public Policy
L'Institut de recherches politiques

A national, independent, research organization
Un organisme de recherche national et indépendant

Founded in 1972, The Institute for Research on Public Policy is a national organization whose independence and autonomy are ensured by the revenues of an endowment fund which is supported by the federal and provincial governments and by the private sector. In addition, the Institute receives grants and contracts from governments, corporations and foundations to carry out specific research projects.

The *raison d'être* of the Institute is threefold:

- To act as a catalyst within the national community by helping to facilitate informed public debate on issues of major public interest
- To stimulate participation by all segments of the national community in the process that leads to public policy making
- To find practical solutions to important public policy problems, thus aiding in the development of sound public policies.

The Institute is governed by a Board of Directors, which is the decision-making body, and a Council of Trustees, which advises the Board on matters related to the research direction of the Institute. Day-to-day administration of the Institute's policies, programs and staff is the responsibility of the president.

The Institute operates in a decentralized way, employing researchers located across Canada. This ensures that research undertaken will include contributions from all regions of the country.

Wherever possible, the Institute will try to promote public understanding of, and discussion on, issues of national importance, with clarity and impartiality. Conclusions or recommendations in the Institute's publications are solely those of the author and should not be attributed to the Board of Directors, Council of Trustees, or contributors to the Institute.

The president bears final responsibility for the decision to publish a manuscript under the Institute's imprint. In reaching this decision, he is advised on the accuracy and objectivity of a manuscript by both Institute staff and outside reviewers. Publication of a manuscript signifies that it is deemed to be a competent treatment of a subject worthy of public consideration.

Publications of the Institute are published in the language of the author, along with an executive summary in both of Canada's official languages.

Traded and Non-traded Services: Theory, Measurement and Policy

Proceedings of a Service Sector Roundtable
June 2-4, 1987
Toronto, Ontario

Edited by
James J. McRae
and
Martine M. Desbois

The Institute for Research on Public Policy/
L'Institut de recherches politiques

Copyright © The Institute for Research on Public Policy 1988
All rights reserved

Printed in Canada

Legal Deposit First Quarter
Bibliothèque nationale du Québec

Canadian Cataloguing in Publication Data

Main entry under title:

Traded and non-traded services

Prefatory material in English and French.
ISBN 0-88645-066-7

1. Service industries – Canada – Congresses.
2. Canada – Economic policy – Congresses.
3. Canada – Commerce – Congresses. I. McRae,
James J. (James John), date. II. Desbois,
Martine M. (Martine Madeleine). III. Institute
for Research on Public Policy.

HD9985.C22T72 1988 338.4'0971 C88-098539-9

The camera-ready copy for this publication was created
on a Xerox 6085 Desktop Publishing System.

The Institute for Research on Public Policy/
L'Institut de recherches politiques
P.O. Box 3670 South
Halifax, Nova Scotia B3J 3K6

Table of Contents

Foreword ix

Avant-propos xiii

Part I Trade in Services: Theoretical Issues 1

Trade in Services: A Theoretical Approach 3
James R. Melvin

Trade in Producer Services: A Summary of Some Theoretical Results 11
James R. Markusen

Trade in Services: Information, Technological Innovations, Regulation 19
Gérald LeBlanc

Discussion 25

Part II Trade in Services: Performance and Policy 33

From Theory to Policy: A Premature Analysis 35
James J. McRae

Policy for the Service Sector – What's Possible 45
Mark Krasnick

Discussion 49

Part III Domestic Issues in Services: A Sectoral Approach 55

The Health Care Sector 57
Malcolm C. Brown

Discussion 67

Elementary, Secondary and Vocational Education in Canada: Some Preliminary Results 71
Stephen T. Easton

Discussion 83

Household Service Consumption and its Monetization 87
Herbert G. Grubel and David L. Hammes

Discussion 99

An Overview of the Retail and Wholesale Trade Sectors .. 103
Keith Acheson and Stephen Ferris

Discussion 111

Government Service Sector Project Overview 115
Douglas Auld and William T. Stanbury

Discussion 117

Legal Services 121
David Gill

Discussion 133

Architects and Engineers – An Overview 135
David L. Hammes

Discussion 149

Employment Agencies, Personnel Suppliers, and Security and Investigation Services 151
Dennis R. Maki

Discussion 157

Amusement, Recreation, and Broadcasting 159
William G. Watson

Discussion 169

Luncheon Speaker:

Canada's Financial Sector: Poised for Export Markets? 173
Jill Bodkin

Part IV Statistical Issues 181

Marketed Business Services 183
Anna Ansmits

Part V Services in Regional Development 203

Service Industries and Regional Development: Patterns, Theory and Policy 205
William J. Coffey

Discussion 213

Determining Connections Between Tradeable Services and Regional Economic Performance Through Basic Data Sources 215
Ken Norrie

Dinner Speaker:

Issues in the Geneva Negotiations about Services 219
Rodney de C. Grey

Part VI Trade in Services: Empirical Background 231

Consulting Engineering and Real Estate Management and Development Services: Some Preliminary Considerations Concerning Trade and Location 233
Mario Polèse

Discussion 241

Global Financial Developments: Implications for Canada 243
Thomas J. Courchene

Discussion 255

Part VII Trade in Services: Legal, Institutional and Negotiating Issues 257

Towards an Approach to Negotiating Rules on Trade in Telecommunications and Information Services 259
Daniel M.A. Roseman

Economic Issues in Negotiating Trade in Services: Canadian Interests 267
Murray G. Smith

Discussion 277

Labour Mobility and Trade in Services 283
Ivan Bernier

Discussion 289

Comments by Rapporteur: Survey of Issues and Future Research 291
Dennis P. De Melto

Discussion 301

Annex A: Agenda 305

Annex B: List of Participants 309

Members of the Institute 317

Institute Management 321

Publications Available 323

Foreword

It is becoming widely recognized that many consumer services previously generated within the household have migrated into the marketplace. Similarly many activities which might best be viewed as personal and social investment, and previously were undertaken within the family unit, now show up in our social accounts as health care, education, and social services provided through the public sector. And many services previously offered as internal activities within the hierarchy of organizations in primary or secondary industries now are marketed formally by service enterprises whose revenues therefore appear as part of the output of a formal service sector.

Thus the measured scale of the service sector grows, and many new activities come within the scope of public policies affecting market transactions.

Moreover, technological change increasingly makes possible a process of intermediation in service activities – a separation in space or time of the ultimate recipient of services from the original producer of those services. "Value-added" services along the way introduce new actors into the process of service provision, and the possibility of trade in such services across national boundaries brings within the scope of international negotiations and rules a vast range of activities previously missing from the trade policy arena.

Further, the nature of service activities moves trade away from a model of separated individual transactions and toward a structure of sustained relationships. The analysis of economic decisions, and of the possible impacts of public policy upon those decisions, becomes a very different and challenging exercise in these circumstances.

The papers contained in this volume represent only a step toward a better understanding of the perplexing phenomena of production and trade in services, and thus towards the goal ultimately of identifying sensible and robust frameworks for policies to support an efficient and expanding system for production and exchange of services domestically and internationally.

A prior step in this journey into largely uncharted statistical and analytical territory was taken in the fall of 1986 with a roundtable meeting organized by the Fraser Institute in Vancouver, B.C. The papers presented at that first roundtable provided a broad overview of some of the conceptual and empirical issues which researchers hoped to develop during a two-year research program. These preliminary papers have been published by the Fraser Institute in the book *Conceptual Issues in Service Sector Research: A Symposium*.

The roundtable for which the papers in this second volume have been prepared was organized by the Institute for Research on Public Policy in Toronto in June 1987 as an opportunity for a summary of some research in progress, and an assessment of some of the practical problems of data and analysis which confront the bold initial aspirations in the research plans.

A third step will be taken in a roundtable to be organized by the Department of Regional Industrial Expansion in the spring of 1988. At this meeting, drafts of completed research studies will be discussed, and the attempts to develop implications for public policy will be assessed.

The overall research program of which these three roundtables form a part was initiated by the Department of Regional Industrial Expansion and supported by that agency under its Service Industries Sector Studies Program. Under this program, the Fraser Institute was asked to explore the structure and evolution of the domestic service sector in the Canadian economy, the Institute for Research on Public Policy to examine and analyze Canada's regional and international trade in services, and Statistics Canada to investigate the existing state of service sector statistics and to develop improved statistical foundations for analysis and policy formation.

Three main topics are investigated by the papers in this volume. First, the role of the service sector in the domestic economy was examined by the Fraser Institute's researchers through a series of sectoral studies covering both private and public sector activities. Researchers associated with the IRPP presented papers on the conceptual role of service industries in formal models of international trade, some very preliminary thinking on development and commercial policy relevant to the service sector, discussion of two case studies of tradeable services, and the role of service industries in regional economic development. Problems of measurement, and the process of data gathering, were discussed by representatives from Statistics Canada. A survey paper and some invited addresses on the subject of trade negotiations, institutional issues, and deregulation completed the program.

It should be noted that the papers included in this volume, and the discussions which followed most presentations, provide only brief summaries or overviews of current issues and current work. As working papers for discussion purposes, they have not been subjected to the external review process required of Institute monographs, but instead have been lightly edited for timely limited circulation to elicit comments and suggestions for further work.

There is no doubt that many of the questions explored in this volume are important, and at the same time intractable given the present state of our statistical and analytical tools for study of the service sector and services trade. But there is also no doubt that better understanding of these phenomena will be crucial to the future competitiveness of the Canadian economy, and the effectiveness of Canadian public policy.

Rod Dobell
President

January 1988

Avant-propos

On se rend de plus en plus compte qu'un grand nombre de services aux consommateurs, qui autrefois étaient l'affaire des ménages, sont en train de devenir un des éléments de l'économie de marché. Similairement, beaucoup d'activités qu'on aurait pu qualifier d'investissement personnel et social, et qui comme tel relevaient de la responsabilité de la cellule familiale, apparaissent maintenant dans les dépenses publiques aux chapitres de la santé, de l'éducation et des autres services sociaux. Et beaucoup d'autres services, auparavant considérés comme partie intégrante des activités de fonctionnement des industries primaires et secondaires, sont actuellement l'objet du commerce d'entreprises de services dont les revenus apparaissent, par conséquent, comme inclus dans la production d'un secteur officiel des services.

Ainsi la dimension quantifiable du secteur des services est en pleine croissance, et de nombreuses activités nouvelles entrent dans le domaine de compétence de la législation relative aux transactions de l'économie de marché.

Les changements technologiques, qui plus est, facilitent de plus en plus le processus de médiation dans les activités de services et par conséquent la séparation dans l'espace et dans le temps entre celui qui fournit originellement le service et celui qui en est le bénéficiaire final. Les services avec "valeur ajoutée" introduisent tout au long de la chaîne de nouveaux participants dans le processus de prestation de services, et la possibilité du commerce de ces services entre les pays ouvre la voie aux négociations internationales et régit un vaste évantail d'activités inconnues jusqu'ici dans ce domaine.

La nature particulière des activités de services contribue à éloigner le commerce d'un modèle de transactions individuelles indépendantes pour le rapprocher d'une structure relationnelle consolidée. L'analyse des décisions économiques et des conséquences possibles d'une politique officielle sur ces décisions devient, dans ces circonstances, un exercice très différent et qui demande une nouvelle approche.

Les études présentées dans cet ouvrage ne constituent qu'un premier pas vers une meilleure compréhension des phénomènes complexes intervenant au cours de la création et de la commercialisation des services. C'est un jalon posé sur le chemin vers l'objectif ultime, qui est de définir des structures de fonctionnement judicieuses et robustes pour une législation capable de soutenir un système efficace et adaptable, relativement à la production et à l'échange des services aux niveaux national et international.

Une première incursion dans ce territoire, en grande partie non marqué du point de vue des statistiques et de l'analyse, a été effectuée à l'automne 86, à l'occasion d'une table ronde organisée par l'Institut Fraser, Vancouver, C.-B. Les communications présentées à cette première table ronde ont fourni une large vue d'ensemble sur certains des problèmes conceptuels et empiriques que les chercheurs se proposaient d'approfondir dans les deux années à suivre de leur programme de recherche. Ces études préliminaires ont été publiées par l'Institut Fraser dans un livre intitulé : "Les Problèmes conceptuels dans la recherche sur le secteur des services : un symposium."

La table ronde, dont les communications font l'objet du présent second volume, a été organisée par l'Institut de recherches politiques en juin 87, à Toronto, pour permettre de faire le point sur les recherches en cours et d'évaluer certains des problèmes pratiques de données et d'analyse qui font obstacle à la réalisation des aspirations hardies des débuts du programme de recherche.

Une troisième étape sera accomplie au printemps 88 quand une table ronde se tiendra, à l'initiative du ministère de l'Expansion industrielle régionale. Les premières rédactions des recherches complétées seront alors discutées et les tentatives de mise au point des projets de réglementation qui en résultent seront évaluées.

L'ensemble des programmes de recherche dont font partie ces trois tables rondes a été lancé par le ministère de l'Expansion industrielle régionale et financé par cet organisme, dans le cadre de son programme d'études sur le secteur des industries de services. Dans ce contexte, l'Institut Fraser a été chargé d'explorer la structure et l'évolution du secteur des services domestiques de l'économie canadienne; l'Institut de recherches politiques s'est vu confier le soin d'examiner et d'analyser le commerce régional et international des services, et Statistique Canada celui d'étudier la situation actuelle dans les statistiques du secteur des services et de mettre au point un système de statistiques amélioré afin de faciliter l'analyse et l'établissement d'une politique.

Les questions examinées dans le présent volume se répartissent selon trois catégories principales. Pour commencer, le rôle du secteur des services dans l'économie domestique, qui a été étudié par les chercheurs de l'Institut Fraser à l'aide d'une série d'études sectorielles portant à la fois sur les activités du secteur public et sur celles du secteur privé, est examiné. Ensuite, les chercheurs associés à l'Institut présentent des analyses sur le rôle conceptuel des industries de services dans l'établissement de modèles théoriques de commerce international, ainsi que quelques réflexions très préliminaires sur la politique commerciale et le développement de ce secteur des services, la discussion de deux études de cas de services commercialisables et le rôle des industries de services dans le développement économique régional. Enfin, les problèmes d'évaluation chiffrée et de rassemblement des données sont discutés par des représentants de Statistique Canada. Une étude d'ensemble et plusieurs allocutions faites à la demande des organisateurs sur les questions de négociations commerciales, de problèmes institutionnels et de déréglementation, viennent compléter le programme.

On remarquera que les études présentées dans ce volume, ainsi que les discussions qui ont suivi les conférences dans la plupart des cas, ne constituent qu'un résumé ou qu'une vue d'ensemble limitée des questions discutées ou des travaux actuellement en cours. En tant que documents de travail destinés à servir de base à la discussion, elles n'ont pas été soumises à la procédure d'évaluation externe requise pour les monographies de l'Institut. Par contre, elles ont été légèrement révisées par la rédaction, afin d'en faciliter la circulation et d'encourager les commentaires et suggestions susceptibles d'aider dans la poursuite du travail.

Un grand nombre des questions abordées dans le présent ouvrage sont incontestablement importantes, et cependant elles demeurent difficiles à résoudre du fait de l'état actuel de nos méthodes statistiques et analytiques dans le secteur des services et dans le commerce des services. Il demeure néanmoins évident qu'une meilleure compréhension de ces phénomènes deviendra cruciale pour la compétitivité de l'économie canadienne et pour l'efficacité d'une politique canadienne dans ce domaine.

Rod Dobell
Président

Janvier 1988

PART I

TRADE IN SERVICES: THEORETICAL ISSUES

Trade in Services: A Theoretical Approach

James R. Melvin
Department of Economics
University of Western Ontario
London, Ontario

There has been a good deal of discussion recently of the role and importance of services, both for specific economies and in a comparative international setting. Recent books evaluating the role of services include R.P. Inman (1985) and J.I. Gershuny and I.D. Mills (1983), and an analysis of the role of services in the Canadian economy is found in Dobell, McRae and Desbois (1984). Part of the reason for the upsurge of interest in trade in services has been the expressed desire by the U.S. Trade Commission to have trade in services included in forthcoming General Agreements on Tariffs and Trade negotiations. But while much has been done to quantify the importance of the service sector in the domestic and world economy, surprisingly little attention has been paid to theoretical issues that arise in service industries, and in particular to the theoretical issues of international trade in services.

One reason for the lack of attention that has been paid to services is undoubtedly the difficulty associated with defining services and distinguishing them from goods, and the related question of whether, even if goods and services can be distinguished, such differences are important for theoretical analysis. A survey would probably reveal that most economists do not feel that a different theoretical treatment is required for the analyses of services and goods.

One author who emphasizes the distinction between goods and services is T.P. Hill (1977), who defines a service as "a change in the condition of an economic unit which results from the activity of another economic unit" (Hill 1977, 336). Hill is very critical of the view that services are just special kinds of goods, or that services are "immaterial goods." He argues that services and goods are not the same and that "... goods and services belong in different logical categories" (Hill 1977, 336).

Of course, even if one accepts the fact that services and goods are fundamentally different, this does not imply that the theoretical models one would use to analyze them need differ. As Hindley and Smith (1984) argue, "the underlying premise is that services are different from goods, which may indeed be so. But a bunch of flowers and a ton of coal and a jet airliner are very different things also." They go on to argue that the fact that services have not been used to illustrate the propositions of comparative advantage does not suggest that these propositions are invalid for the treatment of services. They conclude that "... none of the potential difficulties of applying the normative theory of comparative cost to trade and investment in service industries appears to yield any *a priori* reason to suppose that the theory does not apply."

Interesting though it may be to define services and to distinguish them from goods, it is perhaps more instructive for purposes of theoretical analysis to investigate the question of why service industries arise. This is the approach I took in a recent paper (Melvin 1987), where it is argued that one of the difficulties associated with identifying services is that the activities referred to as services cover very different kinds of activities. Three kinds of services are defined; contact services such as haircuts and appendectomies which require the producer and consumer to be at the same place at the same time; substitution services such as TV and radio which allow essentially the same product to be consumed without the requirement of being at the performance; and intermediation services such as transportation which allow markets to clear by providing a means of getting a product from the producer to the consumer. It is further argued that while these three types of services are distinctly different, they share at least one important feature. In particular, they arise because of the constraints of distance and uncertainty associated with the time and space dimensions of economic analysis. The failure of most theoretical analysis to formally incorporate these dimensionality constraints may, to some extent, account for the difficulty that economists have encountered in dealing with services.

While there have been attempts to define services and to distinguish them from goods, it seems clear that a consensus does not yet exist on these issues. Nonetheless, it is clear that economists and laymen have no difficulty in deciding which things are services and which things are goods even though problems may be encountered in providing general definitions. Therefore, even without agreement on definition it is possible to analyze the specific role that services play in economic analysis and in the theory of international trade. Some work along these lines has already been done. Bhagwati (1984) has used the standard trade model to address the question of why services would be cheaper in underdeveloped than in developed countries, an empirical observation that has been noted by several authors. Djajic and Kierzkowski (1986) have used the standard Heckscher-Ohlin model to investigate the consequences for trading patterns of the explicit inclusion of the need to maintain durable goods in order to ensure their continued productivity. Deardorff (1985) has investigated, in terms of the standard trade model, the question of whether trade in services can be explained by the principle of comparative advantage.

One of the issues that immediately arises in any discussion of trade in services is the question of what exactly is being traded. The problem arises, of course, because services such as haircuts or appendectomies cannot be produced in one country and sold in another. Such services require the coincidence in time and space of the producer and the consumer, which means that either the producer or the consumer must move, at least temporarily, to the other country. Some authors, including Deardorff (1985), feel that a service produced in the foreign country should be considered an export of the home country if home country services are used as inputs. He argues, for example, that "if we think of the ownership of the firm as abiding with management, then it is natural to think of the firm as exporting the service, even though the actual production takes place within the importing country using local labour" (1985, 42). But by such a definition almost anything produced by a foreign subsidiary using imported factors could be considered an export. Thus, cars produced in Canada using U.S. capital, U.S. technology, and Canadian labour could be considered U.S. exports.

To illustrate, consider the production activity characterized by the equation, $Y = F(X_1, X_2)$, where Y is some output, either a good or service, and where X_1 and X_2 are imports, one of which may be a service. Suppose that production takes place in Canada, and that X_1 is supplied by the United States. In this case, what is being exported by the U.S.? If Y represents automobiles, X_2 represents Canadian labour and X_1 U.S. capital, then we have a situation where there is foreign investment by the U.S. in Canada, but no trade. Suppose, however, that X_1 represents foreign know-how or management services. In this case, we could quite legitimately regard X_1 as an export of services from the United States. To take quite a different example, suppose that Y represents haircuts, that X_1 represents barbers who commute from the United States, and that X_2 represents some rented facilities for providing haircuts. Most economists would not object to Y being regarded as U.S. exports of haircuts, even though the production of this service actually takes place in Canada. As an even more extreme example, suppose X_1 are Japanese cars, X_2 are Canadian dealerships that provide the service of selling these automobiles, and that Y are Japanese cars sold in Canada. Again we would have no difficulty in persuading ourselves that Y is the imported commodity even though some value has been added by the service industry in Canada.

The point is that while the formal production and trade structures in all these examples is the same, they lead to quite a different interpretation of what is being imported, depending on what the production process actually does. One way of avoiding this confusion is to concentrate on international payments, and to define an import to have taken place if an international payment is made for X_1, whether X_1 is capital, a service, or an intermediate commodity. Thus, in our example, X_1 is always the import and Y is domestic production. In the haircut example, the import is barbers' services, not haircuts. This is not a trivial distinction and indeed is crucial if certain apparent paradoxes and theoretical inconsistencies are to be avoided.

The model we will employ in our analysis is the standard two-factor, two-good model from international trade theory. In particular we assume that two commodities, X and Y, are produced with two factors, K and L. Both production functions are homogeneous of the first degree, and factors K and L are in fixed supply and are fully employed. The foreign country is defined completely analogously, the only difference being that we assume that the home country is relatively well endowed with K. It is assumed that commodity Y is relatively K-intensive, and for simplicity it is assumed that tastes are identical and homothetic in the two countries.

Our model differs from the traditional one in that we assume that one of the two commodities cannot be traded. The non-traded good may be a service, but this is not at all central to the major results. One of the factors, K in our analysis, provides a service which can be exported to the foreign country. We have in mind a factor which provides a service to producers in the foreign country, perhaps by visiting the foreign firm, but again this is not essential. If the factor does visit the foreign country it is assumed to return once the service has been provided, and all consumption by the owner of this factor takes place in the country of domicile. It is not a factor flow as usually defined since it does not remain in the foreign country. The factor service could be engineering consulting, management services, or the services of truck drivers.

While the factor service flow does not represent an actual factor movement, since the factor returns to the home country, the production effect of this temporary reallocation of the factor is clearly similar to what would occur in a factor-flow model. Our model thus combines the characteristics of a trade model, where commodities are exchanged, and an investment or factor-flow model where factors move. Trade is therefore an exchange of a commodity for the services of a factor.

Using this simple model, we show that in a model of service trade the results derived are quite different from those of the traditional Heckscher-Ohlin model. While the export of a factor service in exchange for a commodity will, in situations where both goods continue to be produced in both countries, produce the same world equilibrium as either commodity flows or factor flows, the world may look quite different after trade has taken place. In particular, if the mobile service is used intensively in the production of the mobile commodity, then efficient world production can be achieved only if the factor service employed in the other country is enough to produce a switch in effective relative endowments. In this case, the country that is well endowed with the factor K will, nevertheless, import the K-intensive commodity.

One implication of the service trade model is that a service exporting country will be observed to have a merchandise trade deficit. Such deficits should not be seen as a problem, but rather a reflection of a comparative advantage in the service sector.

Tariffs have unexpected results in terms of the traditional model, for regardless of whether X or Y is imported, a tariff will result in an increase in P_x relative to P_y. This results because the direct effect of the tariff is not on relative commodity prices, but on the price of the imported commodity relative to the price of the internationally mobile factor service. As a consequence, a tariff will always increase the output of the commodity that uses the internationally mobile factor intensively regardless of which commodity is imported. A commodity tariff will also always be beneficial to the immobile domestic factor whether the tariff is on X or Y.

New results are also found for other trade taxes. A tax on the export of capital services is shown to produce identical results to a tariff. Thus in this model, just as there is an optimal tariff so is there an optimal tax on the repatriation of foreign earnings. An export subsidy is found to be exactly equivalent to an import subsidy, and both will reduce welfare and deteriorate the terms of trade.

With trade in services, some domestic taxes have unexpected effects on the trade sector. It is shown that favourable income tax treatment of foreign-source service income is equivalent to an export subsidy. For countries importing services, a tariff is equivalent to a domestic tax on repatriated foreign-earned income.

While a tax collected from domestic consumers produces identical outcomes to those found in the commodity trade model, changing the relative price of commodities at the production level has quite different effects. A tax which raises the price of the commodity which uses the mobile factor intensively will increase the price of this factor relative to its price in the foreign country, and this will result in the repatriation of the K previously employed abroad. The final equilibrium will be the autarky position. If the tax reduces the price of the commodity that uses the internationally-mobile factor intensively, then all units of this factor will seek employment in the foreign economy. On the other hand, domestic factor taxes are shown to have exactly the same effect as tariffs and thus there is a symmetry between domestic taxes and trade taxes. In particular, an import tariff can be duplicated by a commodity tax combined with a domestic factor income tax.

When both commodities are tradeable, there is an indeterminacy in trade patterns and as a consequence, traditional commercial policy may not have the expected welfare effects. Thus tariff reductions, while increasing commodity trade, need not increase welfare.

References

Bhagwati, J.N. 1984. "Why are Services Cheaper in the Poor Countries." *Economic Journal* 94, 279-286.

Deardorff, A. 1985. "Comparative Advantage and International Trade and Investment in Services." In *Trade and Investment in Services: Canada/U.S. Perspectives*, ed. by Robert M. Stern (Toronto: Ontario Economic Council), 39-71.

Djajic, S. and H. Kierzkowski. 1986. "Goods, Services and Trade" (Geneva: Graduate Institute of International Studies), working paper.

Dobell, R. and J. McRae, and M. Desbois. 1984. "The Service Sector in the Canadian Economy: Government Policies for Future Development," Centre for Public Sector Studies, University of Victoria.

Gershuny, J.I., and I.D. Mills. 1983. *The New Service Economy*. (London: Francis Pinter Publishers).

Hill, T.P. 1977. "On Goods and Services." *The Review of Income and Wealth* 23, 315-338.

Hindley, B. and A. Smith. 1984. "Comparative Advantage and Trade in Services." *The World Economy* 7, 369-390.

Inman, Robert P. 1985. *Managing the Service Economy* (Cambridge: Cambridge University Press).

Melvin, James R. 1987. "Services: Dimensionality and Intermediation in Economic Analysis." IRPP Discussion Paper.

Trade in Producer Services: A Summary of Some Theoretical Results

James R. Markusen
Department of Economics
University of Western Ontario
London, Ontario

I. Overview

My work in the services project has been to examine various theoretical issues. In all, I have produced three papers for the Institute for Research on Public Policy (IRPP). The unifying element of these papers is that they all relate in various ways to trade in producer services, also called business services. Among these are management and engineering consulting, banking, insurance, finance, accounting, legal counsel, architecture, advertising, and marketing services. These producer services are an important component of traded services, and they constitute a rapidly growing category of trade in services. The latter is probably due to improvements in communication and transportation that allow many services which were previously non-traded to enter into international trade.

II. Characteristics of Producer Services

Producer services, like other economic aggregates, are a heterogeneous collection of activities. Nevertheless, I would suggest that many of these services, particularly those that enter into international trade, have several common characteristics. First, they are knowledge intensive, or intensive in the use of human capital. Management and engineering consulting are perhaps the best examples in which the individuals or firms are providing services based on accumulated expertise. But surely banking, finance, marketing, and the other services mentioned above have a similar characteristic.

Second, these knowledge-intensive services are often differentiated. That is, suppliers often have "niches" that mean that their areas of expertise are somewhat different from competing suppliers. Management consultants, engineering consultants, legal counsel, and even financial firms have this characteristic of service differentiation.

Third, producer services by definition are inputs into further production. Some also serve final users, such as banking services, but the producer service category is by and large directed at serving other firms as the name suggests.

Fourth, producer services are often complementary with one another, rather than directly competitive from the point of view of firms buying these services. Even in a narrowly defined category such as engineering consulting, different individuals or firms are specialized in somewhat different sets of problems and thus to some extent they mutually support or complement one another rather than substitute for each other.

III. Implications of these characteristics

Knowledge intensity often implies high degree of scale economies, though at a very micro level, such as that of the individual. Knowledge-based services are produced with a high fixed cost in learning. The marginal cost of services is low in that knowledge-based services can often be supplied to additional users at very low marginal cost. An example might be an engineer who, after spending considerable time solving a general problem, sells the solution to additional customers for the cost of copying the original blueprints. This is an extreme example in which knowledge is a joint input that can be used or consumed by additional users at zero marginal cost. An example closer to home for many of us involves problems figuring out computer software. Once somebody has figured it out, that person can answer the questions of others at a fraction of the time it would take each of those others to solve the problem themselves.

Differentiation by suppliers of business services such as engineering and management consultants arises naturally as a property of the technology. It is more productive to have two engineers each specializing on one aspect of a problem than have them duplicate their efforts by each learning both aspects. This productivity of increased division of labour arises partly, or perhaps largely, because of the high fixed costs of learning just mentioned. It also arises because of a type of learning-by-doing whereby solving one problem makes it much easier to solve other closely related problems than if the original problem was not addressed. Thus a management or engineering consultant who begins working in one area becomes, by the nature of learning, an expert in that area. Consultants could in principle start out as identical clones, but this learning process would eventually produce very different skilled workers over time.

The consequence of this differentiation is that suppliers of producer services are often complementary in the production of final goods and services. The appearance of a new specialist may raise the productivity of other specialists, and hence increase the overall efficiency of final production. A closely related idea is that the efficiency of final goods production is dependent on the number of skilled specialists available. The efficiency of the Canadian manufacturing sector thus depends on its ability to access the expertise of consultants, financial firms, marketing firms, etc.

The consequence of the scale economies aspect just mentioned is that the degree of specialization or differentiation and hence productive efficiency is limited by the extent of the market. It would be ideal to have labour very finely divided in its expertise, but this leads to costs that counterbalance the increased productivity.

IV. Formal Models

In two papers, I have tried to capture these characteristics in formal mathematical models. These models are similar to monopolistic competition models in which consumers benefit from increased diversity in consumption. In my case this notion is applied to production, thus capturing the Smithian notion that productive efficiency increases with increased division of labour. More formally, final output is produced with a CES technology from an endogenous number of inputs. The assumption of an elasticity of substitution greater than one implies that additional inputs raise the physical marginal products of other inputs, which captures the complementarity referred to above. Additional inputs also have the effect of increasing final output, and therefore, lowering the price of final output. This "pecuniary externality" is what leads the general-equilibrium system to an equilibrium.

The division of labour is in turn limited by the fixed costs of creating new specialized inputs. A monopolistic competition type pricing assumption is then used to solve the models for an equilibrium allocation. One result, again reminiscent of Adam Smith, is that productive efficiency in equilibrium is proportional to the size of the market. A larger market supports a greater division of labour, and therefore, more efficient production.

V. Implications for public policy

1. One implication of the models is that permitting trade in producer services is superior to permitting trade in final goods only. The latter permits countries to capture gains in the traditional comparative advantage sense. But the former permits countries to capture the additional gains from increased division of labour, and therefore, increased productive efficiency. This can be seen by considering a very simple example in which we have two identical countries. If they can trade only final goods, there will be no incentive to trade and no gains from trade will be captured. But if the countries can trade producer services, it is mathematically identical to doubling the size of one of the countries. As we noted above, this increased size permits a greater division of labour and increased productive efficiency. With trade, each country gets access to a pool of differentiated, complementary services that is twice the size of the autarky pool. My papers prove this result in a much more general context.

2. It follows from this that one would expect tariffs or other barriers to imported producer services to have a worse effect than in traditional models. This is indeed true, and in one of the papers I produce an example where, even for a country with monopoly power in trade, a small tariff makes that country worse off. The tariff on imported producer services derationalizes the domestic final goods/services industry by making fewer specialties available and decreasing the division of labour and productive efficiency. Because of the complementarity between domestic and foreign services, this fall in the division of labour has a negative effect on domestic suppliers of producer services. The tariff fails to protect domestic firms and indeed leads to a fall in the number of domestic services provided. Domestic welfare falls despite a favourable terms-of-trade effect.

The more obvious point, namely that efficiency in the production of final goods suffers from barriers to trade in producer services, is also true. Efficiency in Canadian manufacturing, for example, will suffer if firms do not have access to foreign specialists in engineering and management consulting. Combining this result with the result of the previous paragraph implies that it is easy to construct a case where barriers to imported producer services do not serve anyone's interests. This is in sharp contrast to the usual Stolper-Samuelson type result where barriers to trade in some final good always makes at least one group in society better off.

3. In a second paper, I consider these features of fixed cost and specialization at the level of the individual, as in a management or engineering consultant. As in the case of the first paper, I show that there exists an externality such that the market equilibrium

underprovides specialists, or that there exists a less-than-optimal degree of the division of labour. This means that a role exists for some form of government subsidy to the provision of skilled labour services. However, if we allow the skilled specialists to be internationally mobile, it is very important to subsidize the right thing. I show that if the government subsidizes the education or training of skilled workers, international equilibrium is maintained by the emigration of skilled workers. This policy of subsidizing education and training is thus welfare reducing for the home country and welfare increasing for the foreign country. The appropriate policy is to subsidize the use, not the education or training of the skilled specialists.

This has obvious policy implications for everything from R&D policy to medical policy. In the latter area for example, we heavily subsidize the education of doctors and then attempt to keep their salaries low. If doctors are internationally mobile, we have this policy exactly the wrong way around. Canadian taxpayers' dollars spent on subsidizing medical education do yield an increased output of medical services, but perhaps largely in medical services delivered in Texas and California.

VI. Intra-Firm Service Trade by Multinational Enterprises

The remainder of my research relates to trade in producer services by the multinational enterprise (MNE). Much of the literature on MNE's finds a high correlation between the importance of MNEs in an industry and the existence of knowledge-based, firm-specific assets in that industry. Different terminologies are used by different authors, but the ideas are similar. Knowledge-based assets lead to the existence of multi-plant economies of scale, by which we mean that one two-plant firm can produce more cheaply than two independent one-plant firms. The reason is the joint-input nature of knowledge-based assets I mentioned earlier. Once engineers have created a new product or production process, it can be supplied to additional plants at very little cost, and without reducing the productivity of the innovation in other plants. Thus it is not surprising that MNEs are closely related to the existence of knowledge-based assets.

Given this connection, it then follows that MNEs are in the business of trading the services of knowledge-based assets within the firm. For various reasons, the MNE chooses to internalize the trade in these services rather than transact them in arm's-length markets. These reasons include the risk of dissipation of the assets by licensees, which is a very real threat due to their jointness or public-goods property just discussed. But the fact that these producer services are traded within the firm does not mean that what is traded across borders is fundamentally different from producer services trade in arm's-length markets.

I do not have the time to go into great detail on this work on MNEs. One point I try to make, a point made by others, especially Alan Rugman, is that our balance of payments accounts for services are constructed more on the basis of the mode of transaction, rather than on the basis of the economic content of the transaction. Trade in producer services and payments for foreign direct investment (FDI) are accordingly classified separately. Certainly, part and perhaps much of the latter is payment for capital invested. Herbert Grubel has some evidence that suggests that returns on FDI earned by American corporations did not differ significantly from returns that they earned domestically. But this does not imply that firms are not exporting the services of firm-specific assets, since costs of developing these assets (e.g., R&D costs) may be allocated across all operations, domestic and foreign. I thus suggest that there are good reasons for suspecting that an important share of returns to FDI may be payments for the producer services provided by the parent firm. Even if payments for FDI are completely explained as payments for capital invested, there is still a very interesting economic phenomenon here in that we then have the implication the host country is receiving the services of firm-specific assets for free, and hence is possibly reaping large gains from the inward FDI.

In any case, I do not have time to go on, and I will simply leave us with the thought that there may be a much closer connection between trade in producer services and intra-firm trade by MNEs that we realize or certainly than is clear from our current balance of payment (BOP) accounting practices.

References

Markusen, James R. 1987. "Trade in Producer Services and in Other Specialized, Intermediate Inputs." IRPP Discussion Paper.

Markusen, James R. 1987. "Production, Trade, and Migration with Differentiated, Skilled Workers." IRPP Discussion Paper, forthcoming in the *Canadian Journal of Economics*.

Markusen, James R. 1987. "Intra-Firm Service Trade by the Multinational Enterprise." IRPP Discussion Paper, forthcoming under the title "Firm Specific Assets and Gains from Direct Foreign Investment," *Economica*, 1988.

Trade in Services: Information, Technological Innovations, Regulation

Gérald LeBlanc
Département d'Economique
Université Laval
Québec

Introduction

It is now common parlance that economies are becoming more and more service based. However, even if everybody has an intuitive idea of what constitutes a service, the problem becomes more difficult once we try to be more specific, especially when our objective is to encompass in an unified framework all the services supplied in an economy. In effect, the service sector includes a lot of very diversified activities ranging from legal advice about a very localized problem to the management of a large construction project in a foreign country to the consolidation of financial statements for a multinational firm through an international telecommunications network. It is, of course, a very difficult exercise to abstract from these (apparent) unrelated activities their common economic characteristics and to try to derive policy implications. This effort towards policy conclusions is even more complicated because many services activities have been (partly) deregulated or even privatized. Also, technological innovations have substantially modified the way some services are supplied, and have permitted the creation of new activities and, of course, have raised new policy problems. Consequently, combining the proper characteristics of the services sector with their institutional structures and their rapid technological advances in order to derive policy conclusions is not an easy task. It is, however, the objective of this report to formulate some thoughts in this direction, by presenting eight hypotheses.

Observations

The paper is organized around the following hypotheses. These hypotheses recoup some of the preoccupations the United States sees as the key parts of a deal in its trade negotiations with Canada, i.e., the liberalization of the trade of services (related to the deregulation of some industries), the intellectual property (copyright and patent), and finally foreign investment (seen here as the way of going into a new market in the service sector). In fact, our paper can provide some logical chains between the economic characteristics of the service sector and these issues.

First, there are services activities which have as their main function to produce, to treat and to sell information in various forms. Because the organizations which are selling information are in fact selling an intangible good which can become obsolete in a short time, they must support important sunk costs, i.e., costs which cannot be recuperated by selling the acquired information in another market. Examples include advertising and various research activities.

For these service activities, the main market characteristic of importance is the asymmetry of information between buyers and sellers. This asymmetry of information is also a source of sunk costs. In effect, the seller of the service or the product must engage himself in various means of informing the eventual buyers of its product or service, consequently incurring some expenses which are in fact a sunk cost. From the buyer's point of view, the search process also costs him time and money. Here again, the buyer will not be able to recuperate this expense.

The presence of sunk costs raises three important problems, and has some important consequences, particularly at an international level:

- It is difficult to define an industry, even if the output produced is tangible. For example, must we consider all the complementary activities to a product or a service in order to define an industry, or may we investigate it by operating divisions? To take a well-known example, does it follow that the airline industry is a contestable market because the planes by themselves are not a sunk cost, or must we take all the other (service) components into account? Note that depending on the point of view adopted, different policy conclusions can be derived.

- These sunk costs can be seen as a strong barrier for a potential firm to enter into the industry.

- Because of these costs, the instruments for regulating service sectors are substantially different from the ones used in regulating tangible products. The instruments must be much more specific. It then follows that, for the service industries, it will be difficult to develop a framework as general as the one developed for tangible goods in the context of the General Agreement of Tariffs and Trade (GATT) Codes and Articles.

The existence of asymmetry of information between both parties to a transaction, combined with the impossibility of recuperating the investment costs, produce a situation in which the sellers of the information services must find some means to convince the customers that they are competent, that the information they are selling is reliable, and up-to-date, etc. All means, in some way or another, aimed at establishing a good reputation. Various strategies can be employed in order for a firm to reach that goal. Among them, the following are most important:

- An important way of doing business in a foreign market is to be associated with an already established firm, or to buy one (for example, the buying of Harris Bank by the Bank of Montreal). It then follows that transactions in the service sectors will be accompanied, more often than with the tangible output sectors, by an investment.

- Be hired as a consultant by an international firm in order to gain international exposure.

- In the context of legal services, a lawyer will establish contingent fee schedule, i.e., he will share (under predetermined agreement about the proportions) the amount awarded to his client, and in the case where he loses, he will charge nothing. This way of doing business is appropriate for a young lawyer, or for a lawyer who has a bad reputation.

- In order to establish their reputation, some consulting firms will advertise themselves by saying that they are just selling "information" in the sense that they will give advice without any obligation on the part of the buyer to follow up on the recommendations. This type of service serves to insulate the consultant's objectivity.

- A well known means of rapidly establishing credibility is to buy a franchise, assuming that the franchiser has a good reputation in its country or region.

- A firm which has already a good reputation can try to sell information services which are complementary to other activities. We can note that the telephone companies in Canada and in the United States have created subsidiaries in the information services. They advertise by saying that they would like other firms to take advantage of their experiences acquired in the course of their activities.

Second, there are other service activities which, because of recent technological innovations, are embodied in a tangible output, and thus can easily be transferred and sold. In fact, these services can be considered similar to an ordinary good because their quality is observable, it is possible to obtain information on them, and they are storable, etc. In other words, they have lost characteristics that make them substantially different from a tangible good. However, it is interesting to note that the goods industries incorporate more and more intangible services, and these goods are often bought for the services they provide.

It is this class of services that has rendered other services more easily tradeable at distance, by eliminating the need for face-to-face relationship, etc. Consequently, these innovations have created new information needs but at the same time have also raised new policy issues. In many cases, these "tangible outputs" are accompanied by other tangible outputs, for example a book describing the functioning of software or advertising activities announcing new diskettes or new movies, or the appearance of new specialized reviews explaining the capability of new CAD/CAMs. The purpose of these new service activities is to allow customers to make a better advised choice – consequently, these technological innovations have created new information service industries.

Third, there are many services which combine elements from the previous two categories of services, i.e., the buyer of information will have to translate it in terms of a tangible output in order to complete the transaction. In that context, it is not necessarily the same professional who will perform these two components (informational and transactional) of the transaction. Moreover, sometimes regulatory laws forbid the same professional from executing the two parts. However, these kinds of services carry with them some interesting implications with respect to the observability of the quality of information supplied. Also, institutional arrangements can have a strong impact on the way these two steps of a transaction are subjected to tariffs. For example, the competition will be done at the transactional level even if at the information level there are regulatory laws which forbid such competition.

Fourth, many service industries have been strongly regulated or are still regulated. This regulation has taken many forms, has been justified by many reasons (cultural identity, national security), and has been formulated at various levels (industry, product or market specific). These forms of regulation, one way or another, have been a strong barrier to the development of international trade of services, despite recent moves towards deregulation. Once again, the technological innovations in some industries have been a strong incentive for deregulation, often because innovations have blurred many activities together.

Domestic regulation can be a subject of international bargaining because the way in which services are supplied in a particular country can have an impact on the activities in another country. As many kinds of services can now be performed anywhere in the world, there is a real possibility that the subject of regulation will become an element of bargaining among the countries (a form of non-tariff barrier). In other words, regulation can be seen as a means of retaliation by one country against another.

Fifth, a distinction must be made between how the services are produced and the consumption of the resulting output. In other words, some production processes have been uniformized, but it doesn't follow that this is the same for the final services or products. In fact, there are many examples (clothing, housing, perfume, banking) where the final output can now be made much more personalized than previously. Of course, these situations are the result of the aforementioned technological innovations.

Sixth, even if the production process for a service can be exported (or imported), the final product must be consumed in a certain place. For example, the malfunctioning of a switching machine can be detected many miles from the place where the machine is located but to repair it, it is necessary to have a repairman on the site. In that sense, the localized nature of a service is still an important characteristic of the service sector.

Seventh, enterprises have decided to make in-house many activities that were previously bought from outside suppliers. It is, of course, difficult to determine a general pattern, because so many factors are involved in these kinds of decisions, but it is certain that technological innovation has played an important role in this process. However, one cannot discard the impact of deregulation which has occurred in many service industries, especially in telecommunications and finance. In fact, we can say that these two factors have resulted in more integration (vertically as well as horizontally) in some firms, but have had an opposite effect in other firms.

Eight, the discussions about the economic implications of trade in services require that the analysis be done at a more disaggregated level than the one suggested by many classifications. In fact, in these discussions, the market concept must be the central point. For example, the aggregation level of the various classifications is such that a particular activity like "finance" or "transportation" can belong to more than an industry. Take the financial sector, for example. Here we have many firms, each of them performing some regulated activities, competing on some other unregulated activities, being regulated at different levels and with different means, supplying markets which have different characteristics, etc. At a more concrete level, think of the distinction made by the American negotiators about the concept of Canadian culture. It is evident that this industry embraces a lot of activities. One can then decide to disaggregate, say for the book industry, but again this concept is still too aggregate for our purpose. In effect, the U.S. negotiators have said that the various technical periodicals and books should not be part of the cultural industry. They should be seen as instruments or means for transmitting technical background to professionals and, consequently, be opened to free trade.

Discussion:
Theoretical Issues

McRae to Melvin:

Given the intangible nature of service transactions, it's somewhat difficult to think about how one would go about placing a tariff on services. Does your model lend itself to market share restrictions, e.g., restricting foreign firms to say 10 or 20 per cent of the domestic market?

Melvin to McRae:

A tariff on a traded service would be a tariff in the usual sense. Using the standard model, in which a commodity is exchanged for the services of a factor, a tariff on the service would consist of taking some of the payment that a company is receiving for the provision of that service. This is exactly equivalent to putting a tariff on the other commodity. In other words, given a model in which services can be traded, anything which affects the return on that service is equivalent to a tariff, and has exactly the same effect on the world economy as a tariff does in the standard commodity model. In order to have free trade, then, all tariffs on services would also have to be removed.

With respect to your second question regarding the possibility of analyzing market shares, it seems to me, although I haven't thought about it previously, that it could quite easily be done. The question of limitations on the ownership of domestic service firms is certainly an interesting one.

De Melto to Melvin:

What caught my attention in your paper was the issue of exporting capital services. Given that the capital services exported tend to be information services, it seems that it could be argued that their export may not diminish the availability of capital services based in the home country.

Melvin to De Melto:

That's a very interesting question, but one which can't really be addressed in terms of this model, which is a standard Heckscher-Ohlin model, in which the supply of the factor service is fixed. The kind of question you're raising, I think, could be more easily addressed by Jim Markusen's model which provides for very strong increasing returns on the provision of this service. It's an important question, though, and I think you're quite right – depending on the factor service, the marginal costs involved in its provision may be almost zero.

Acheson to Melvin:

I would like to make a comment on the structure of this approach. It seems to me that it would be interesting to incorporate policy considerations directly into the model. If goods and factors are interchangeable to the economist but policies are different, examining why may reveal differences between the two that are significant to policy makers and should be incorporated in the model. In addition, the two may be interchangeable in a world without transaction costs but differ in a world with transaction costs. It might be a more efficient form of financing investment if, for example, instead of building a plant in the United States, one were to write a contract with an indigenous American firm.

Melvin to Acheson:

It's quite true that when there are various options available, some will be more efficient than others and policy considerations other than efficiency will determine which is chosen.

Easton to Melvin:

I wonder if there is a consistent aggregation of some sort that would measure effective protection, or is there some concept like that which would enable one to predict how an increase in the tax on a commodity will affect the output of the product?

Melvin to Easton:

In my model there is no intermediate input which is really what effective protection relates to. Were the model to be set up in a more formal way, you would find that the options it permits – commodity trade on the one hand, pure factor flows for trade of factor services on the other – all produce exactly the same final equilibrium, with the same commodity price structure and factor price structure. There is no difference in terms of identifying equilibrium conditions in the way I've set them up.

Grubel to Markusen:

Jim Markusen has suggested that what is reported as factor income in the form of profits returned by corporations may not in fact be returns to capital, but rather returns to the kind of services which drive multinational investment abroad because it allows them to exploit the economies of scale resulting from their managerial skills and technological know-how. I would like to suggest that this is a very short run model. The reason for this is that, at the margin, the cost of using the information produced initially for domestic use is zero when used offshore. Profit maximizing behaviour would therefore push the use of information abroad to the point at which the marginal return is equal to zero. Thus, in equilibrium, there should be no observable net return to be embodied in the return to capital.

Dobell (Comment):

Perhaps I should add that access costs may be quite different depending on the kind and whereabouts of the information. For example, if the information is available through an information base or a dial-up facility, it may in effect be at very low or zero opportunity cost. If, however, access is through a consultant with the usual constraints on the source – such as time – the cost may become significantly greater. I don't know what difference that consideration would make to the model, but it would certainly change the costs involved in using the information asset either domestically or abroad.

Markusen:

I'll address Herb Grubel's comment first. The theory developed in my model is developed with the assumption that the multinational enterprise has a knowledge-based asset which can be supplied to additional production facilities at very low cost. This does not by itself provide us with a theory of market equilibrium and the price of the asset.

The cases I use in my model range from one in which a MNE, by virtue of a monopoly position, achieves a very high return on its firm-specific asset, to a polar case in which competition among MNEs, or between the MNE and indigenous firms, drives the return on that firm-specific asset, in the foreign country, to zero. This is a very strong welfare result from the point of view of the host country. For whatever reasons, whether it be market competition, free entry or whatever, the return to the MNE's intangible or knowledge-based asset is being driven down to zero. In my model, this would mean that the host country receives a very strong welfare benefit from hosting the MNE. Observing that repatriated earnings of MNEs are fully explained by returns to investment capital, then, would be perfectly consistent with the model.

So the model by itself has no implications for the relation between repatriated earnings and the value of the services provided. That is an empirical issue, and would reflect such factors as market structure, and the ease of entry of competing MNEs or domestic firms.

In constructing balance of payments accounts, this issue is, of course, very important. It may turn out that MNEs' repatriated earnings are fully explained by actual capital investment. On the other hand, we may find substantial rents that could be attributable to the existence of these intangible assets.

With regard to Rod Dobell's question, MNEs are more likely to arise in situations in which the marginal cost of transferring knowledge-based services is very low. The empirical evidence has always suggested that MNEs are usually to be found in industries where there is a very high level of R & D, high product differentiation, high advertising, a high proportion of white to blue collar workers, etc. These are, in turn, correlated to easily transferred knowledge-based assets. So statistically, although certainly not exclusively, MNEs tend to be associated with this public goods property within the firm.

Helleiner to Markusen:

I wonder whether you have experimented sufficiently with those characteristics you have identified as being peculiar to producer services. Surely there exist producer services which are not entirely complementary with domestic producer services and may, in fact, be good substitutes. This assumption is crucial to the outcome. If you were to identify and model some cases in which there is substitutability rather than complementarity, and add the other relevant service industry characteristics, it seems to me that you might be driven to adopt a strategic trade model.

Markusen:

With regard to the first part of your question, the models are constructed with the assumption of complementarity, and it would be fair to say that in this respect the deck is loaded. The functional forms used in this analysis, as in most of the literature on monopolistic competition, are chosen with their outcomes already known. However, I do not think that the assumptions I made are entirely unreasonable to capture some of the aspects of the industry I wish to examine.

In basic economic terms, the assumptions claim that division of labour in the service industry is productive, and that the use of specialists will increase rather than decrease physical marginal products at constant prices. For example, engineering consultants entering the field will never duplicate exactly what others are doing; each will specialize to some extent, and there will be a general reorganization within the field to accommodate the new specialty. Those in the field will complement each other in the sense of raising each other's marginal products at constant prices.

I must emphasize, however, that the cost of a new consultant may in fact drive down the price of all engineering consultants, albeit while raising their physical marginal product. That's how free entry drives the system to equilibrium.

I haven't dealt with the issue of strategic behaviour within the context of this model, although it's certainly relevant. One would certainly expect the Canadian financial sector, for example, to be as active as the manufacturing sector in trying to manipulate government policy with regard to the liberalization of trade in services. Part of the reason I haven't dealt with this issue is that there are so many agents (specialized consultant and small firms) that there is little scope for strategic behaviour. Strategic considerations tend to arise more often in situations with limited entry, and that's not how I chose to model these types of producer services.

Palmer to LeBlanc:

I am puzzled by the existence of the third category into which you place services. Could not all services be collapsed into two categories – those which are knowledge-based, such as engineering consultants, and those which produce some tangible result, such as architects who produce designs which result in the construction of a house?

LeBlanc to Palmer:

What I've tried to catch in the third category is the producers who can provide both the information and the tangible output, and those who can provide only one or the other. An ophthamologist in Quebec, for example, can't also sell glasses. To take another example, stockbrokers charge both for the information provided to the client, and for the actual cost of performing the transaction on the exchange floor. Since deregulation, of course, some stockbrokers charge only for the tangible service, and provide no information. The distinction is a bit artificial perhaps, but I was trying to reveal the various components comprising the service sector.

Weiermair to Markusen:

You have already alluded to the fact that different market structures will produce different results, but it seems to me that the issue of high scale economies in human capital is very closely related to the internal and external organization of labour markets, the education system, and a whole host of things. I'm wondering what kind of assumptions you make in these areas, and how your results would differ if you were to modify them?

Markusen to Weiermair:

In my two papers, I focus on individuals in one, and on firms in the other. In the former I talked about migration results – about an individual's choice to become a specialist in a given field. The latter model has firms arising endogenously, although the firm must endure a fixed cost to enter the industry, thereafter, producing at constant marginal cost. On entry, firms will choose to produce a service which is somehow differentiated from those already being provided in that field. Both models are free entry, so that firms can crowd in until rents are driven to zero, assuming that the market is large enough to support such an equilibrium. In such a model, with a large market relative to the size of individual firms, there is no scope for strategic behaviour, and the firms can't individually manoeuvre in such a way as to catch positive rents for themselves.

I've done very little work on the specific issue of labour market conditions except in one paper in which I address the issue of subsidized training of skilled workers. It's a very simple and stylized design that again allows for general equilibrium, and it permits very precise measuring of the effect of subsidized education. It produces the very powerful and intuitive result that if your skilled workers are mobile, you do not want to subsidize their education.

Dobell to Melvin:

There are, of course, substantially different policy consequences flowing from a concern with the free movement of people as compared to those flowing from factor services. For example, the use of the telephone as opposed to the actual transfer of labour as a way of delivering labour services is an important distinction when looking at the policy consequences. Are these models in fact distinguishing between factor movement and trade in factor services?

Melvin to Dobell:

In my model, I assume no labour mobility, but that's arbitrary and makes no difference. One could just as easily call the unnamed factor labour. However, the income earned by services transmitted to the other country, whether by telephone or in person, always is spent in the home country. In terms of this model, it doesn't matter whether or not there is factor mobility. I don't have it because I think it's more reasonable to assume its not there – but the model itself is not particularly good for addressing the kind of question you're asking.

PART II

TRADE IN SERVICES: PERFORMANCE AND POLICY

From Theory to Policy: A Premature Analysis

James J. McRae
Professor, University of Victoria
and Research Coordinator
The Institute for Research on Public Policy

Introduction

From my limited experience observing major economic policy debates in Canada, I have formulated a hypothesis which closely parallels the so-called "first mover" advantage documented in many sectoral studies of industrial behaviour. In the pharmaceutical, textile and tobacco markets it has been observed that firms who enter the market first with a new product, or a significant variation on an established product, are able to establish a market advantage against subsequent competitors. The advantage accrues because consumers compare the products of later entrants to the attributes of the first product, and if no significantly superior characteristic is noted, they tend to minimize decision-making costs, and stick to the first brand. A similar first mover advantage seems to exist for policy analysis in that suggestions and supporting analysis first put into the political marketplace become the norm against which subsequent, competing suggestions are compared. It is as important to be first as it is to be correct.

For a number of years, the U.S. Administration has stressed the need for removing barriers to trade in services, particularly for transportation, communications, banking, insurance, engineering, construction and business services. The Canadian response to this U.S. initiative has been to support the inclusion of services in the new round of GATT talks, but a somewhat more specific analysis of Canadian strengths and weaknesses in service trade is provided by the Macdonald Commission. It is worth quoting from the commission's final report at length because this analysis has achieved the position of first mover with all the associated advantages that this status implies.

> "Several of Canada's service industries such as banking, insurance and allied financial activities, would appear to be capable of substantial export successes in the U.S. market. The removal of existing Canadian restrictions on the entry of U.S. firms in some fields could result in significant penetration of Canadian markets by U.S.-based competitors without conferring comparable benefits in the other direction. Overall, it is likely that the United States has more to gain from the reciprocal reduction of barriers to trade in services than has Canada. For this reason, perhaps, Canada might reasonably expect that in return for its willingness to provide more open access to its services market, the United States might offer guarantees of improved access for goods exported from Canada." (Royal Commission on the Economic Union and Development Prospects for Canada, Vol. 1, p.309.)

Thus, in one paragraph – and with little fanfare – many of the issues which have occupied the researchers at this conference for the previous year or more have been put into a policy format. Our comparative advantage sectors have been identified (banking, insurance and allied financial activities); the relative magnitude of the gains-from-trade have been estimated (the United States has relatively more to gain); and the elements of a bargaining strategy have been suggested (offer service sector access and demand improved access for Canadian goods exports).

The purpose of the premature policy analysis of this paper is to suggest that the commission's policy suggestions have moved too far, and too rapidly, from the supporting analytical and conceptual foundations. More backfilling of analysis is required before sensible and implementable trade policy suggestions can be identified and defended for the service sector. This paper is a first tentative step in the process.

Gains from Trade in Services

One of the most powerful and enduring theorems in economics concerns the mutual gains from trade arising from specialization and division of labour made possible by unhindered access to markets. Originally formulated, and subsequently refined for a production structure representing physical goods, it was demonstrated that world and individual country welfare – defined as the sum of producer and consumer surpluses – could be maximized by free trade.

When the focus of attention shifts to the production and consumption of non-tangible service commodities, the demonstration of world and individual gains must be reasserted. I have no doubt that the gains-from-trade theorem is just as valid for international service transactions as it is for merchandise trade, but there may be important policy differences depending upon the distribution of the gains, i.e., the mix between gains to producers of physical goods and services and gains to consumers. While economic theory treats each of these gains as equal, I think it is fair to say that political economic theory does not. The political process, in which service sector policy will be formed, favours the interests of concentrated groups against the interests of dispersed ones; and favours existing, established industries at the expense of emerging ones. The format of how the gains from trade are allocated between producers of goods, producers of services and domestic consumers, and how this mix of potential gains maps on to the existing institutional structure of the economy, will have very important ramifications for the possible policy agenda.

I have no definitive answer on how this problem should be modelled, but given the informational nature of many service sector transactions it seems that some answers may be found in the economic literature concerned with information and uncertainty. While not specifically targeted to international trade issues, a specification by Douglas North and John Wallis (1986) may be particularly helpful. They divide the economic activities of the economy into two groups – transactions activities (and occupations) which are concerned with information processing and exchange, and transformation activities (and occupations) which physically transform inputs into outputs. Transactions activities are important for both buyers and sellers because they reduce transacting costs, and thus allow more mutually advantageous exchanges to take place both domestically and internationally. Growth in the number and diversity of transactions activities within the home, corporation, or as stand-alone institutions, is viewed to be welfare enhancing because it reduces the cost of exchange, and permits the realization of gains from greater specialization in the production side of the economy. How this translates empirically into gains to consumers, and gains to producers of both services and physical goods will in large part determine the institutional environment in which the policy agenda will be set.

Some Base Line Data on Canadian Services Trade

A second set of issues which will also serve to set the tone and limit the scope of services trade policy suggestions is the level and structure of Canadian trade in service commodities. Nearly everyone who has done research on the topic of service trade comments on the conceptual and measurement difficulties involved. With suitable apprehension of the definitional issues involved,[1] Statistics Canada has produced the publication entitled *Canada's International Trade in Services: 1969 to 1984* (Cat. 67-510). Some important, basic observations emerge from these data.

Based on 1984 data, Canada's export of services, net of investment income, was $14.2 billion, while imports were $18.6 billion. The $4.4 billion deficit thus generated is the largest service sector deficit in a continuous string of rising deficits since 1969. Measured as a percentage of total non-service sector receipts, the Canadian recorded service exports represent 11.7 per cent in 1984. The equivalent figure for service imports is 16.3 per cent.

Statistics Canada disaggregates the international trade in services data into four sub-aggregates – travel, freight and shipping, business services and a small 'other' category. The travel account is disaggregated geographically into travel to (from) the U.S. and all other countries. Freight and shipping is disaggregated sectorally into four categories, and geographically into the United States and all other countries. The business services category is divided into 16 sub-categories sectorally, and into six different geographic groupings.

The travel sub-account in 1984 generated a deficit of $2.1 billion on receipts of $4.4 billion and payments of $6.5 billion. For the same year, freight and shipping produced a surplus of $0.5 billion on receipts of $4.3 billion and payments of $3.8 billion. International trade in business services produced revenues of $4.5 billion and payments of $6.7 billion for a recorded 1984 deficit of $2.2 billion. The travel and business services categories have generated continuous and rising trade deficits since 1969.

Relevant policy data emerge when attention is specifically focused on business services, and the data displayed according to the country of control of the transacting company, and whether or not the transactions were carried out with affiliates or non-affiliates abroad. First, receipts for the export of business services from Canada are dominated by arm's-length transactions, i.e., Canadian controlled establishments exporting to non-affiliated buyers, often outside of the United States.[2] The primary sources of business service export revenue are consulting and professional services, transportation services, commissions and insurance. Often, these overseas sales of services are linked to large projects, and increasingly, with countries that are not members of the Organization for Economic Cooperation and Development (OECD).

In contrast, payments for business services are primarily to the United States (73 per cent of total payments in 1984); are mainly for royalties, patents and trademarks, management and administrative services and research and development charges; and primarily involve U.S.-controlled establishments buying services from affiliated head offices, often in the manufacturing sector.

Thus, the structure of Canada's import and export of traded business services is very different, and will condition the policy agenda. The picture which emerges is of a country whose domestically controlled corporations sell business services, increasingly to non-OECD countries, without the benefit of selling to foreign-based affiliates. Often these export sales are linked to large overseas projects.[3] On the payments side, imports are predominantly head office services, transacted in a non-arm's-length fashion between a U.S.-controlled subsidiary and the U.S. head office.

The Emerging Policy Agenda

At this point, the reader will be forgiven for asking "so what?" There is little in the preceding summary which will shock even the most casual observer of Canadian trade, but what conclusions emerge for the policy agenda? Without getting too deeply involved in specific program detail, I suggest that there are basically four policy areas that require more detailed analysis in order to determine whether or not the benefits of targeted trade policy exceed the costs. The areas are the international marketing of Canadian produced services; the identification, quantification and motivation of foreign countries' use of non-tariff barriers (NTBs) against Canadian service exports; the question of productivity enhancement for service industries; and regional issues related to entrepreneurship, and the operation of small and medium sized enterprises.

As made clear in the previous section, services may be sold abroad through two quite different institutional vehicles. The first is by direct, arm's-length transactions involving two unrelated companies – a Canadian service exporter and a foreign buyer. The second method is through intra-firm channels involving either global business service firms, or international manufacturing firms which can centralize sophisticated head office services in one location and "export" these services to affiliates located in other countries. For Canada, our service export pattern is dominated by the former mechanism, while our import pattern is characterized by the latter.

Finding export opportunities, and arranging for the required financing package, can be an extremely difficult operation when most international service transactions are of the direct, arm's-length variety. It can legitimately be argued that the informational requirements inherent in the direct export of service commodities are far more onerous than the equivalent ones for manufacturing goods, and may thus require specific public policy attention.

The argument begins with a simple observation. So long as there exists complete and symmetric information about the production process used to produce service output, i.e., the way in which the inputs of time, effort and supplier ability are mixed to produce the output itself, and the different quality characteristics of the output, a competitive market mechanism is capable of generating technical and allocative efficiency. If, for some reason, the required level of information on production technology does not exist, or product quality details are not observable and verifiable, or if information is available but in a non-symmetric fashion favouring buyers or sellers, then the efficiency-generating properties of a competitive market can be questioned. The resulting market equilibrium in this situation of insufficient information can be quite hopeless, with low quality sellers dominating the market, producing inappropriate output levels with inefficient technologies, and engaging in trade patterns which are not welfare-maximizing.

Fortunately, there are several formal and informal market responses to deal with the domestic and international problems of quality assurance.[4] Fee schedules can be designed to make the level of fees paid contingent upon the successful and complete delivery of the service. This market mechanism works so long as all attributes of the service can be monitored. Also, warranties can be used in the same contingent fashion to provide assurance to the buyer that potential problems with poor quality can be incorporated prior to the consumption decision being made. Finally, certification and monitoring—either by a public body or by the service providing industry itself—also provides a mechanism to deal with potential quality problems. However, the most common way in which quality assurance is built into service sales is through the establishment of a good reputation by the seller.

The relevant question with respect to reputation is whether the market by itself and operating within the structural characteristics of the Canadian marketplace, is able to create and distribute the correct quantity. Relatively little is known about the economics of reputation, but a simple case can be made for targeted public policy aimed at helping new and relatively small firms to establish international reputations through government procurement, or possibly temporary subsidies on first sales. It will not be possible in this short paper to develop these notions any further, but it should be understood that a whole range of reputation-enhancing instruments is potentially available. These range from market-like to quite interventionist. The costs and benefits of each will have to be developed from both an economic and an interest group point of view before sensible public policy suggestions will be forthcoming.

The second issue which emerges for the service sector is the need to identify and quantify the most important NTBs facing Canadian service exporters. This can only realistically be completed on a sector by sector basis, but two general observations are important. Many of the existing impediments to services trade are the direct result of domestic regulations which have been put in place for domestic policy objectives. Unfortunately, many of these regulations – even when applied on the basis of national treatment – can have a detrimental impact on Canadian service sector exports. The problem of separating detrimental impact from normal competitive advantage can be a very difficult task requiring detailed microeconomic analysis. Also, the need to separate NTBs into groups mainly concerned with direct service trade, and those which have an impact on investment is not so important for Canada. As noted in the previous section, Canadian service exports do not often take place through intra-firm channels, thus barriers to investment are not particularly important.

Much attention has been focused on the differences in measured productivity between the goods and services sectors. The conventional wisdom on this topic is that services are less able to achieve productivity increases because they are less amenable to mechanization, standardization, and mass production. However, parts of the services sector seem to be achieving significant productivity gains by the spread of new organizational structures for production – franchising and joint ventures – and technological advances especially in the computing and data processing fields. Productivity enhancement for the services sector thus becomes an important trade question involving issues of worldwide intellectual property protection. All elements of intellectual property – patents, trademarks and copyrights – are important.

The fourth and final policy issue which emerges for the service sector concerns the regional and urban economic issues of relevance to small and medium sized enterprises. Detailed studies of service-producing enterprises for selected cities in Canada and the United States have confirmed that there is almost no positive relationship between size of establishment and degree of export activity, i.e., relatively small service establishments are often very active in export markets. This implies that issues such as access to capital, entrepreneurship and the dynamics of location decision making are policy areas in which the traditional instruments of industrial economic development may not be as relevant.

In summary, the conceptual basis for sound public policy towards services can often be justified by realizing that service industries essentially transact information between economic agents. An economic transaction involving physical goods can be thought to involve three phases requiring information supplied by service sector occupations. Before the transaction, agents incur search costs; at the point of the transaction there are enacting costs; and after the transaction there are monitoring costs. At any, or all, of these three stages, the existence and symmetric distribution of the required information between buyers and sellers may be such that a non-optimal market equilibrium is obtained. The policy agenda is to serve the public interest, i.e., correct the failure in the information markets, without creating private rents.

Notes

1. For example, only cross-border service transactions involving residents of Canada and non-residents are recorded. Sales of services abroad by the foreign subsidiaries of Canadian companies are excluded.

2. In contrast to the merchandise account, where a large (over 75 per cent) and growing share of exports is accounted for by the U.S., only about 56 per cent of Canadian business service sector exports in 1984 went to the United States. This share has been remarkably constant since 1969.

3. It is not known what percentage of the projects are financed in whole or in part by the Canadian International Development Agency (CIDA).

4. For more details on this issue see Holmstrom (1985).

References

Holmstrom, B. 1985. "The Provision of Services in a Market Economy." In *Managing the Service Economy: Prospects and Problems*, ed. by Robert Inman, New York: Cambridge University Press.

Wallis, J. and North, D. 1986. "Measuring the Transaction Sector in the American Economy 1870-1970," mimeo, Washington University.

Policy for the Service Sector – What's Possible

Mark Krasnick
Swinton and Company
Vancouver, B.C.

This paper is designed to investigate whether or not a need exists for a national policy for the service sector. What infrastructure must Canada put in place, equivalent to the transcontinental railway, to meet the needs of the service sector for the next century? Can Canada realistically see itself evolving into a major service sector exporter? Before addressing that question specifically, I thought a few words on free trade in services might be appropriate.

In looking at the export of services the possible imposition of either tariff or non-tariff barriers plays a role.

We know that there are some things which will be true about the export of services which may not have been true in the past. First, our actions as well as those of our trading partners will be watched more closely, will be more transparent and will be better understood for what they are! Government will watch with a sophistication that was be no means pronounced in the past. As well, for example, the Council of Service Industries in the United States focuses specifically on service sector exports, to watch for and expose what it considers unfair.

Second, there will be difficulties in implementing any service sector agreements that Canada may reach. There are two reasons for this. First, the "Distinct Society" clause may have some relevance. Take the case where an attempt is made to harmonize legislation with respect to banking and trust companies. In European Economic Community (EEC) terms, there is a desire for equivalent regulatory regimes. In Canada, it is well agreed that federally regulated companies can operate anywhere. At the same time, Quebec restricts the use of lawyers to those with civil law training. Say Quebec were to say that only lawyers with civil law training could practise banking law. Under the Meech Lake Accord, this may be a legitimate exercise of constitutional power within Quebec, but in Ontario it could be seen as a violation of our international trade arrangements. Second, with respect to the treaty itself, there will be difficulties of implementation, depending on the breadth or scope of the treaty. In my view, a very narrow treaty, one which just abolishes remaining tariffs, creates no problems of implementation; nor would a very broad treaty, which just deals with principles and dispute resolution mechanisms. However, a sector-by-sector treaty which looks at the service sector as a specific sector would create problems, as it may be an illegitimate exercise of federal constitutional jurisdiction.

Next, what role does government play in the export of services? Well, one would hope that government not prove to be a hindrance. Such, as we all know, especially in an audience of economists, has not always been the case. Government more traditionally has seen itself playing roles such as providing financial guarantees to exporters, coordinating service sector exporters and marshalling public sector resources to aid those in the private sector.

As well, there is the provision of tied-aid funds to developing countries, foreign investment policies, and providing links for the private sector to deal with foreign government when they tender to purchase services.

Given the libertarian bias of this audience, it might be interesting to figure out which of these functions could be performed not by government but by the private sector. My sense is that realistically, financial guarantees and coordination could be.

We can now see various initiatives being taken by different countries to promote the export of services or, in other words, to provide the infrastructure necessary to make the service sector viable.

For example, in Australia, major law firms have formed an exporting arm. In Japan, a number of companies are setting up a satellite linked communications city. In British Columbia, the Council of Forest Industries, the federal government and the provincial government have set up joint exporting arms which appear to have worked quite effectively in promoting the export of logs. In New Zealand, the trade commissioners are expected to earn their keep by providing services of benefit to New Zealand firms. The Ontario International Corporation has seen a role in providing brochures, coordination, contract administration. Of course the province like all others provides a wide degree of infrastructure. And then, of course, there is Canadian investment policy. Bringing immigrants with investments is the service sector equivalent to bringing in Amoco to drill oil wells generations ago. The policy looks as though it is our way to provide for a limited form of an international free flow of individuals.

Let's delve more deeply into some specifics. For example, one service, quite prominent (and used by most of us who are staying in North York), is the leasing of automobiles. One traditional way of looking at this is to see the selling of cars as the product. That is the traditional contribution to the gross national product (GNP). But as well, you could see that one service export is selling the technology required to run the rental car business – the computer systems, the reservation systems etc. Or, you could see selling the cleaning and maintenance systems, the peripheral systems which combine to make the company run profitably. Corporations who have a high cost of production in comparison to less-developed countries (LDCs) are now finding that they can make money by selling off their technology. They can sell in-house expertise, they can provide service for their own product, as is the case with Xerox, or they can sell services which require the use of products – for example, chicken ranchers forming Swiss Chalet Restaurants. As well, there is an emerging new service sector which packages independent services into multi-disciplinary national firms. This could include lawyers, accountants, engineers, consulting economists, and out-of-town business centres which can be used as the daytime equivalent of hotel rooms for business purposes.

Next, what *is* infrastructure for the services society? Is the equivalent of our transcontinental railway, the CPR or Air Canada as our national airline? Does it include the Roy Thomson Centre, Expo 86 or the Blue Jays. My sense is that to the modern service resource, the human person, it is things like zoos, restaurants, science centres, Dome stadiums, and cultural attractions which become the raw materials to attract a service economy. If this is true, can we then ask if Denver, Colorado, could argue that funding the Dome Stadium in Toronto is a subsidy designed to enhance tourism.

A second concept to consider is deregulation and the role of government. Of course, we all believe that there are public goods which should be provided for the betterment of the public. These include roads, sewers and police, and there are long-standing economic theories as to why this is a public good as opposed to one that is private. Of course, the Americans try to expand the domain of private goods by farming out things like police services, and the British seem to be trying to sell the sewer system to the private sector. Canada provides all of this as part of the traditional public sector as well as things like Granville Market and harbourfront which, it seems to me, do not fit the traditional definition of public goods.

How about communications? Will that be the infrastructure of the service economy? Can we subsidize the wired office and subsidize a national, equalized long-distance rate structure. Can we view a Crow's Nest communications rate as being more appropriate than a Crow's Nest freight rate for the next generation.

Finally, I want to say a word about the time frame. In our discussions, we expect things to take time. Thus, we look at new insurance exchanges opening in Toronto, Miami, and New York, but we then say that they will never be able to compete, so why consider taking on Lloyd's of London? We look at the Vancouver Stock Exchange trying to attract more venture capital and we ask ourselves how we can compete with the big bourses of the world? We must recall that Lloyd's of London and the New York Stock Exchange are now into their fourth and second centuries respectively. We are, by both British and American terms, a young nation and Laurier may have *just* been a bit early in saying that the twentieth century is for us. My sense is that in designing infrastructure for the service sector, we need not worry about the quick fix, and by quick I mean the next 20 or 30 years. In this exercise, we have to look at the world of 2050 and how Canada is positioned for the generations that follow!

Discussion:

Policy and Performance

Suri to Krasnick:

I'm intrigued with your concept of creating trading houses within the service sector, and I am wondering whether there are examples of these in other countries – or perhaps Japan or Korea – and if so, how they were established and marketed.

Krasnick to Suri:

Yes, it is a model copied from the Japanese experience. Japan has trading houses which run the gamut from those which operate essentially as banks, to information gathering sales forces which promote their houses abroad. Much of the talk has focused on the broad-based Japanese trading houses for manufacturing, resources and commodities, but they also have a large number of more specialized trading houses.

Several years ago the Canadian government did a report on trading houses, which was quite tentative, I think, because it worried about creating an international trading house that would compete against the Japanese ones.

In terms of the types of services we've been discussing – those provided mainly by smaller, individual businesses – I think that the most appropriate type of trading house would be one that could pull resources from a variety of consulting firms and specialty service producers and band them together. That's one of the roles they play in Japan, and that I think they could well play in Canada.

Stanbury to McRae:

As a long-term observer of government, I'm shocked and appalled that my colleagues in law and economics would take the paradigm of the "goods" model of public sector intervention and then, propose that we follow this model with respect to services. It seems to me that were they to look back at the results of past government intervention in the service sector elsewhere they would be less enthusiastic about advocating it here. In my opinion, they have not made a case for government intervention in the service sector, which seems to have grown largely without help. What is the market failure or need for redistribution that would justify government intervention in this sector?

McRae to Stanbury:

I don't think there is anything is my presentation that would imply the need for massive government intervention. I've gone out of my way to make it clear that market forces are sometimes the best instrument to organize certain segments of the service sector. In others, a cooperative approach between the public and private sectors can be more effective. When you look at the service sector in terms of information economics, I think there is a case for the economist's notion of market failure. You take a very broad-brush approach. I think what's needed here is a little more creative thinking, a more innovative approach to finding a mix that suits the culture and evolution of the country—and a little less paint bucket.

Palmer to McRae:

Since Walter Block isn't here for this conference I had thought that I would have to fill his role, but I see that Bill Stanbury has done so. I would like to raise similar issues, however.

In his presentation Jim McRae made it clear that, from a theoretical approach, the Macdonald Commission's attempt to "pick winners" in Canadian industry was probably misjudged and inappropriate. However, he then proceeds to do so himself, suggesting in his response to Bill Stanbury, that a pick-the-winners strategy has on occasion been successful, and that we can come up with rationalizations for any kind of policy.

Not only has Canada's history of picking winners been notoriously unsuccessful, as the strategy probably has been elsewhere, but I'm distressed to hear McRae suggesting that we will miss out if we don't export more services, i.e., if we don't meet the policies of the countries which are subsidizing the goods and services we receive. It seems to me that we should be delighted to receive these goods, and that it would be inappropriate for us to try to meet those policies.

Am I mistaken, or are you really a reborn mercantilist, Jim?

McRae to Palmer:

This is starting to sound like the McCarthy hearings in the United States! I'm not quite sure what the charge is, but I'll plead guilty to trying to think about these issues from the perspective of an open mind.

Markusen (Comment):

In Jim McRae's defence, I'd like to remark that the country does have, and will continue to have, a host of policies for education, research and development (R & D), bank regulation, and insurance regulation. Some of these policies will have a major impact on trade in services. It is important to note that these are not necessarily government policies in the form of subsidies targeted at promoting trade in services, but they may have trade implications which must be understood.

Watson (Comment):

I'd like to delineate Stanbury's charges more closely. In Jim McRae's response, he said implicitly that the burden of proof regarding legislatively-imposed regulation of the service industry should rest on the shoulders of non-interventionists. I should like to suggest that the onus of proof should be borne by the interventionists, who must both identify the market failure and demonstrate how it can best be corrected through government intervention.

Secondly, regarding the connection between theory and policy addressed in Jim McRae's presentation, it seems to me that comparative advantage in the service sector is very difficult to identify, even for academic purposes, and it's certainly difficult to identify at the very micro level at which a pick-the-winners strategy would have to be conducted, let alone to suit our policies to those areas in which we have an advantage. Perhaps one reason the Macdonald Commission concluded that the United States has a comparative advantage in services was because service industries in the United States have been lobbying the U.S. government for access to other markets, with the result that they are perceived to possess an advantage, whether they do or not.

Grubel (Comment):

I would like to suggest that a broader definition be used for what constitutes trade in services. To say that non-factor services (such as computer services) are the only ones of interest is very narrow and unduly determined by historic coincidence.

My point can perhaps be illustrated by the fact that a computer disk which may cost $2.00 to produce, but contains a program worth $100.00, is considered a computer service export, whereas a computer chip which costs $2.00 to make, but also contains programming and other scientific and engineering services worth $100.00, is considered a manufacturing export.

There are services in every product we export. As Lee Iaccoca points out, Chrysler buys more medical services per car than steel. It is only historical coincidence that in the balance of payments and national income accounts some are considered to be services and some are not. I would suggest that for a full understanding of trade in services we ought also to look at those services embodied, whether directly or indirectly, in material substances.

Dobell to Grubel:

The studies that IRPP has done acknowledge the importance of taking into account service embodied in products. It's a difficult problem, however, determining how far the inclusion can be carried.

Diewert to Krasnick:

Could we not find a counterpart to the CPR in the educational system?

Krasnick to Diewert:

I didn't address the educational system simply because it's the most discussed area where Canada could make a significant contribution. There is a large emerging industry in Canada aimed at exporting educational service by providing technical and other schools for people from other countries. One Australian company is currently looking at the possibility of providing a university exclusively for foreigners as a way of promoting service exports. If one were to substitute information for services and education for transportation, yes, I think your comparison would well be made.

Suri (Comment):

Perhaps this is an unfair question, but I'm wondering about the position of the three political parties with respect to the service sector.

De Melto to Suri:

I think the government's position, at least, is very clear. In respect of the Canada-U.S. agreement we are negotiating for freer trade in services just as we are in the goods producing areas.

While I have the floor, I would like to comment on the implications in the remarks of Professors Stanbury and Palmer that the service industry is the last outpost for free enterprise. In fact, a large number of the commercial service industries in the country are regulated. I certainly wouldn't agree with the view that the service industry as a whole is doing well because it is not regulated. The diversity of the service sector almost always requires analyses to focus on particular service industries or groups of industries.

Daly (Comment):

I would like to comment on Watson's remarks regarding comparative advantage and trade in services. What seems to emerge from the available statistics is that, first, the rate of growth in service receipts is growing rapidly at an international level and second, the ratio of service receipts to gross domestic product (GDP) is also growing rapidly in most major industrialized nations. If we then compare these results to the Canadian data we notice that both the rate of growth of service exports and the rate of growth in the ratio of receipts for service exports to GDP are growing more slowly in Canada in comparison to other industrialized nations.

These two pieces of information would seem to suggest that Canada does not have a comparative advantage in the service sector. Granted, these conclusions were based on the results of a few hours' work using the available statistics, but it seems that the issue deserves more attention. Has anyone looked more closely at this?

Polèse (Comment):

If you look at the Statistics Canada data in *Canada: Open for Business*, you will note that Statistics Canada has, for the first time, organized the balance of payments data by province. These data show that the only province which has a clear surplus in business services is Quebec, while one of the biggest deficits is that of Ontario. The reason for this is clear. The head offices of major service importers are located in Toronto, while most of the exported services, in engineering especially, are based in Montreal – companies like Lavalin, for example. It also means that imports of business services are often derived from previous investment in the manufacturing and resource sectors, while the export of business services are much more independent. This is also partly linked to the fact that many service exporters are small firms.

Thus, there may be certain sectors where we do have competitive advantage, despite the apparently negative outcome noted in balance of payments data. This would also help to explain the apparent contradiction in the way some industries see themselves as competitive in international markets, while the service industry as a whole imports more than it exports.

Palmer (Comment):

I think Jim Markusen's defence of McRae was right on the issue. There's not an economist here who doesn't recognize the potential for market failures, and who doesn't understand that the question is how best to deal with them when they occur. I also think some economists here would agree that in some cases it's best to leave the situation alone. I think both Stanbury and I detected in McRae's presentation a suggestion that exports *per se* are good, and imports *per se* are bad. I would like to caution against seeking areas in which we can increase our exports without first measuring the costs and benefits of doing so.

PART III

DOMESTIC ISSUES IN SERVICES: A SECTORAL APPROACH

The Health Care Sector

Malcolm C. Brown
Department of Economics
University of Calgary
Calgary, Alberta

When Professor Grubel asked me to give a talk on my research on the health sector, he suggested a fairly specific outline. Initially, I should concentrate on historical trends concerning output and employment in the industry, followed by a discussion of problems associated with productivity measurement. Finally, with any time remaining, I should discuss the major policy problems confronting the industry. It is a useful outline, which I attempt to follow, because it reduces the discussion to a manageable level. However, I might warn you that the orientation has two significant ramifications insofar as this talk is meant to be a summary of my research—on the one hand, it means that I won't be mentioning some of the more major and interesting health care issues and, on the other, it means I will be emphasizing some issues here that I give fairly short shrift in the more comprehensive report.

Basic Characteristics and Trends

In principle, health care encompasses all activities which increase the quantity or quality of life, or both. However, for the purpose of defining the health care industry, a more pragmatic definition is necessary—otherwise, most programs involving environmental improvement and social services could arguably be considered a part of the health care sector. The accepted convention is to define health care as any output where both the major intent and effect is to improve health, and any output produced by a worker defined as a health professional.

The above definition of the industry leads to an expenditure taxonomy with four major health categories: (1) operating expenditures of health care institutions (notably hospitals and nursing homes), (2) expenditures on services produced by fee-for-service health professionals (notably doctors and dentists), (3) expenditures on medicaments and prostheses, and (4) other health expenditures (which include capital expenditures on health care institutions). In 1985, 52 per cent of Canada's health care expenditures were in the first category, 23 per cent were in the second, 13 per cent were in the third, and 12 per cent were in the fourth. Collectively, health expenditures amounted to $1,543 per capita, or 8.48 per cent of gross national product (GNP).

In respect to the expenditure taxonomy, it is of note that the first two categories relate primarily to services while the latter two relate primarily to goods. In 1985, the service component of Canada's health care sector involved $1,158 in expenditures per capita, which amounted to 6.37 per cent of GNP. It also involved employment for about 775,000 workers, which amounted to 6.85 per cent of Canada's employed labour force. About 9 per cent of the workers were fee-for-service health practitioners, about 47 per cent were salaried health professionals, and about 45 per cent were non-treatment personnel responsible for hotel-type and administrative functions.

It is generally believed that the health sector has expanded rapidly in size. It is a belief which has empirical validity if one's terms of reference cover the entire period since World War II. Over the 40-year period, total health expenditures as a proportion of GNP have increased from about 2.5 per cent to about 8.5 per cent. However, it is of note that most of the growth occurred before 1970. During the decade of the 1970s, the ratio remained stable at about 7.5 per cent. The pattern of stability continued into the 1980s, with the exception of the recession year of 1982, when the ratio took a once-and-for-all jump of 1.0 per cent.

The post-1970 constraint on expenditure growth has meant that the health sector has not been a major expanding source of new jobs under national health insurance, even though there have been rapid growth rates in the per capita numbers of most health professionals over the period. The growth rates in numbers of professionals have been largely offset by reduced reliance on trainee and non-treatment workers. That total employment in public general hospitals declined from 3.39 per cent of the employed labour force in 1970 to 3.12 per cent in 1984 is probably the best single indicator of this trend.

Health Worker Productivity

The employment trends reflect an ongoing process of increasing labour standards in health, and this raises an important, but unfortunately not completely tractable, set of questions about worker productivity. For example, do more extensively trained health care workers translate into more or better care, or both? As this question has been traditionally addressed, the analyses have adopted a rather unique orientation to the input-output relationships. It has been by convention assumed that all health outputs are produced by fee-for-service practitioners, and the role of all salaried personnel is simply to facilitate this production. Thus, one finds labour productivity indices only for fee-for-service doctors and dentists, and never for salaried nurses and dental hygienists. Needless to say, the labour productivity indices traditionally developed in respect to health are thus not directly comparable to the more comprehensive "total" labour productivity indices developed in respect to most other industries.

Despite the convention of attributing all medical output to fee-for-service doctors, direct physician productivity estimates are relatively rare in the literature. Where issues relating to the availability of medical services have been addressed, by far the most common approach has been to assume (usually implicitly) that physician productivity is a constant, and to concentrate on doctor to population ratios. This is not to say that physician productivity levels and changes cannot be estimated. In terms of Canadian data one obvious approach is to look at the statistics on numbers of medical services supplied per physician. The statistics presented in Table 1 indicate that medical services per physician increased during 1970-1984 by 1.69 per cent annually (on average) in Saskatchewan and by 1.46 per cent in Alberta. A second approach is to look at the statistics on fee-deflated medical expenditures per physician. During 1970-1984, these expenditures increased by 1.28 per cent annually in Saskatchewan and by 0.93 per cent in Alberta (Table 1).

The Saskatchewan and Alberta statistics suggest that physician productivity has been increasing by about 1.5 per cent annually since 1970, and that productivity changes have accounted for about 40 per cent of medical output increases (the rest coming from more doctors). The apparent importance of productivity change on output availability raises the question of why this source of output has been typically ignored in most economic analyses. A hint concerning the answer can be obtained by looking at the statistics in Table 1 from an interprovincial, rather than an intertemporal, perspective. For 1984-1985, the quantity based productivity estimates suggest that Saskatchewan doctors were 16 per cent more productive than Alberta doctors while the expenditure-based estimates suggest that they were 21 per cent less productive. The apparent contradiction occurs primarily because the Saskatchewan medical profession separated its therapies into more parts for billing purposes than did the Alberta profession. Although we know that conventions related to "service splitting" vary across provinces, unfortunately we know little about the extent and nature of the variations. The consequence is that we also know little about provincial variations in the real productivity of fee-for-service doctors.

Conventions related to service splitting vary over time as well as across provinces and, in this regard, changes in recent decades have all been in one direction. There is an unmistakable secular trend towards breaking therapies and diagnostic activities into more parts for billing purposes. In its *Annual Report, 1975*, the Saskatchewan Medical Care Insurance Commission documents a classic example. The report notes that, between 1974 and 1975, the number of obstetric services per 100,000 beneficiaries remained constant at 18, but that the fee declined from $94.83 to $83.89. Perceiving a need to explain the apparent drop in price, the report also includes the following explanatory note:

> The apparent decrease in payments for obstetrics is a result of the fact that concurrent with the May 1, 1976 Payment Schedule revision, the method of payment for maternity care was changed from a composite payment for total care to a composite payment for confinement and post-natal care only. Pre-natal care is now billed on a fee-for-service basis and, as such, payments for these services are included in the partial assessment, minor assessment and laboratory designations for 1975 (p. 29).

Usually service splitting is not reported on, and often goes unnoticed even by the medicare commissions. It is ongoing, however. Recently (May 2, 1987), I was a panel member along with Dr. Richard Kennedy, president of the Alberta Medical Association, at a public presentation entitled "Quality Health Care: At What Cost?" hosted by the Consumers' Association of Canada. At that meeting, Dr. Kennedy not only admitted that service splitting had occurred over time but also argued that it had been necessary in order for doctors to maintain incomes given inadequate medicare fee increases.

Such evidence is typically difficult to document, however. When Dr. Kennedy's comments were subsequently reported in the *Edmonton Journal*, he demanded a retraction on the basis that his comments had been misrepresented.

The physician productivity statistics, when analyzed on the basis of annual growth rates, seem to confirm Dr. Kennedy's suggestion that service splitting has been a tool used by physicians to get around the constraint of fixed medicare prices. The statistics in Table 2 indicate that both the annual growth rate in medical services per doctor, and the growth rate in constant dollar expenditures on medical services per doctor, are negatively correlated with the rate of growth of medicare fees obtained in the preceding year. There is no technical reason why years of low fee settlements should be followed by years of high physician productivity growth, and consequently it seems likely that this correlation is reflecting some kind of physician behavioural trait. The Kennedy thesis (although I am sure that he would not like to have it referred to as such) would explain the correlation by suggesting that doctors become more industrious at discovering new ways of service splitting, the more harshly they are treated by the medicare commission.

To the extent that the Kennedy thesis is valid, it of course implies that the measured rates of physician productivity growth, as reflected in Tables 1 and 2, are biased upwards. In effect, what looks like an increase in quantity is really an increase in price. Under these circumstances, it is not surprising that many analysts prefer to ignore the productivity estimates, and work with models that assume constant physician productivity.

Hospital Efficiency

Impressions about hospital efficiency have been strongly influenced by the way in which labour productivity in health has been addressed. If medical output is attributed entirely to doctors, it means that the only outputs left for the hospitals are the hotel-type services. Hospital output has been traditionally measured in terms of patient days, or patient day equivalents.

Over time, hospitals have required a large and increasing amount of labour per patient day, and this has been conducive to an impression that they are extremely inefficient. The recent study of the Economic Council of Canada (ECC) by L. Auer (*Canadian Hospital Costs and Productivity*, 1987) contributes to this impression by suggesting that Canadian hospitals during 1961-1980 had negative productivity growth of about 2.3 per cent annually.

Employment of the productivity concept in the above context is, to a degree, unfortunate. Clearly much of the increase in hospital inputs per patient day is attributable to a rising ratio of medical to hotel-type activities in the production mix. The ECC study is aware of this, but tends to discount its importance, as the following quotation illustrates:

> To assume that greater service intensity is matched by a corresponding greater hospital output is to assume away

> the fundamental productivity problem. It is analogous to assuming that more labour hours per car assembly must yield cars of superior quality (p. 36).

In my view, the analogy is not overly apt. Over time, hospitals are doing more diagnostic tests and are engaging in more complex therapeutic procedures. The fact that such trends may be having little impact on the quantity and quality of patients lives is an important economic efficiency issue, but it obfuscates matters to assume that producing services with little value is equivalent to producing nothing at all.

The Demand Creation Hypothesis

If the ECC study is wrong in implying that the production of low value outputs constitutes negative productivity, it is not wrong in implying that much of what goes on in hospitals cannot be economically justified. At least a third of health care services provided in Canada could be eliminated without adversely affecting observed mortality and morbidity. The effort to explain why such production occurs has led to the development of the "demand creation" model. Simply stated, this model hypothesizes that fee-for-service health practitioners have financial incentive to recommend more, and more expensive, services to patients than the patients themselves would choose if they had adequate information to act on their own behalves. As long as consumer ignorance and fee-for-service supply are assumed, the demand creation model is reasonably robust in its prediction that the observed demand function for health care tends to be farther to the right than is clinically efficient (or Pareto optimal in the context of fully informed consumers).

Proponents of the demand creation model are inclined to postulate not only that health care demand functions are too far to the right, but also, that there is supply-demand interdependence. Specifically, more doctors leads to greater observed demand. The supply-demand interdependence prediction is not as robust as the excessive observed demand prediction, but it is not my intention to delve into this matter here. Rather it is to note that the supply-demand hypothesis provides an alternative conceptual framework for explaining the negative correlations in Table 2. Rather than assume that much of the output increase is illusory, one can assume that it is real but unnecessary. Then the negative correlations occur because doctors become particularly energetic at inducing patients to accept unnecessary care whenever revenue and profit gains from price increases are constrained.

At present, the statistical evidence is not sufficient to establish definitively the relative roles of demand creation and service splitting in explaining observed productivity growth. My tentative judgment is that doctors are more likely to modify their billing procedures than practice habits in the short run, and therefore, that service splitting is the more important determinant of the negative correlations in Table 2. On the other hand, it seems reasonable that doctors would gradually modify their real practice habits over the long run, in a situation where fewer patients and a gradually evolving technology allow and promote more extensive treatment patterns.

Concluding Remarks

To date, empirical analyses have not been able to address adequately the relatively intractable problems associated with measuring health worker productivity and hospital efficiency. Consequently, we know relatively little about these matters. On the other hand, we know that much is being done in the health sector which cannot be clinically, epidemiologically or economically justified. The major public policy challenge is how to curtail these activities, without in the process giving patient-consumers the impression that they are going without.

TABLE 1
Full Time Equivalent Doctors Per 100,000 Beneficiaries, and Physician Productivity Estimates, Saskatchewan and Alberta, 1970-1985

Year	FTE Doctors Per 100,000 Beneficiaries		Medical Services Per Doctor		1971 Doctor Exp. on Medical Services Per Doctor ($)	
	Sask.	Alta.	Sask.	Alta.	Sask.	Alta.
1970	79	95	7,720	6,682	45,544	57,642
1971	80	101	7,920	6,399	47,000	54,941
1972	84	102	7,968	6,428	50,369	55,118
1973	87	103	8,390	6,538	50,341	56,951
1974	90	104	8,560	6,732	50,867	59,635
1975	95	104	8,402	6,900	49,368	63,635
1976	95	109	9,071	6,508	52,747	56,835
1977	100	109	9,487	6,508	46,780	56,835
1978	96	104	9,118	7,068	50,240	61,375
1979	96	105	9,126	7,219	50,146	62,133
1980	100	101	9,288	7,667	54,370	63,960
1981	105	96	9,283	8,088	54,305	79,250
1982	107	109	9,413	7,834	52,159	65,780
1983	104	113	9,783	8,096	52,990	65,027
1984	106	119	9,764	8,190	54,387	65,605
1985	107		10,201		54,065	
Average Annual Growth Rates						
1970-84	2.12	1.62	1.69	1.46	1.28	0.93

Notes:

(1) FTE doctors = $D_A + (D_I)(Y_I/Y_A)$, where D_A is the number of active doctors, D_I is the number of partially active doctors, Y_A is the average gross payment by a medicare commission to an active doctor, and Y_I is the average gross payment to a partially active doctor. A partially active doctor is one who claimed less than $10,000 (but more than zero) from a medicare commission annually during 1970-77, less than $20,000 during 1978-82, and less than $30,000 after 1982.

(2) Expenditures on physician services are deflated by price indices on medicare fee schedules.

Sources:

(1) Alberta Hospitals and Medical Care Insurance Plan, *Annual Report, Alberta Health Care Insurance Plan*, various issues.

(2) Health and Welfare Canada, *Payment Schedule - Increases - Canada by Province and Territory, 1971-86*, September, 1986.

(3) Government of Saskatchewan, *Annual Report - Saskatchewan Medical Care Insurance Commission*, various issues.

TABLE 2
Annual Growth Rates in Medical Services per Doctor (Q), in Constant Dollar Expenditures on Medical Services per Doctor (Y), and in Medicare Fee Indices (P), Saskatchewan and Alberta, 1970-1985 (Per cent)

	Saskatchewan			Alberta		
Year	Q_S	Y_S	$(P_S)_{t-1}$	Q_A	Y_A	$(P_A)_{t-1}$
1971	2.60	3.20	7.99	-4.42	-4.92	0.00
1972	0.61	7.17	0.00	0.45	0.32	0.00
1973	5.30	-0.25	7.40	1.71	0.33	0.62
1974	2.03	1.25	0.00	2.97	4.24	3.96
1975	-1.88	-3.04	10.00	2.50	6.71	4.04
1976	7.96	6.84	4.41	-6.02	-12.93	16.85
1977	-6.88	-12.76	13.42	0.00	0.86	7.00
1978	7.43	7.40	6.48	8.60	7.99	6.47
1979	0.08	-0.18	8.40	2.14	1.24	7.00
1980	1.78	8.42	7.18	6.21	2.94	15.50
1981	-0.05	-0.12	12.00	5.54	23.91	0.00
1982	1.40	-4.11	23.90	-3.29	-20.48	34.41
1983	3.93	1.59	8.90	3.34	-1.16	10.08
1984	-0.19	2.64	1.97	1.27	0.89	0.00
1985	4.48	-0.60	5.71	n.a.	n.a.	0.00
			Coefficients of Correlation			
Q_S	1.0000	0.6892*	-0.2784	-0.0266	-0.2227	0.1055
Y_S		1.0000	-0.5816*	0.1807	0.0335	-0.0953
P_S			1.0000	-0.1676	-0.2790	0.6512*
Q_A				1.0000	0.17596*	-0.2987
Y_A					1.0000	-0.6850*
P_A						1.0000

Note:
(1) For a sample of 15, the 5 per cent significance level for the coefficient of correlation, using a two tail test, is 0.5139. The asterisk (*) indicates the r values that are statistically significant using this criterion.
(2) Expenditures on physician services are deflated by price indices on medicare fee schedules.
(3) Note that the growth rate in fees is for the year preceding the one cited in the left column. Thus medicare fees in Saskatchewan grew by 7.99 per cent in 1970, 0.00 per cent in 1971, and so on.

Sources:
(1) Alberta Hospitals and Medical Care Insurance Plan, *Annual Report, Alberta Health Care Insurance Plan*, various issues.
(2) Health and Welfare Canada, *Payment Schedule Increases - Canada by Province and Territory, 1971-86*, September 1986.
(3) Government of Saskatchewan, *Annual Report - Saskatchewan Medical Care Insurance Commission*, various issues.

Discussion:
Medical Services

Palda to Brown:

When you speak of drugs as components of the health system, are you looking at the productivity of new drugs? Specifically, are you suggesting that drugs don't belong because they are, in fact, products, or is it the service delivery of drugs which interest you?

Brown to Palda:

I didn't include drugs in my presentation mostly because there was insufficient time to allow for an examination of this aspect of medical care. I rationalize not talking about them, however, because they are, as you suggested, more a health care product than a service and, insofar as free trade is concerned, would be treated as any other kind of product, I imagine.

Weiermair to Brown:

My question relates to the degree of specialization you found in the medical field. Might it be that, because the medical field is less than perfectly competitive, there is too much specialization? In the case of a monopoly, it doesn't matter whether the services provided are needed or not, and it seems to me that overspecialization might be a problem, not just in the medical field, but in others as well.

Brown to Weiermair:

I wasn't suggesting in my presentation that the trend toward more professional categories in the medical field was either good or bad, simply that it was happening. I think the reason for this trend lies in the increasing tendency among members of the field to identify quality with process, and process with qualifications, which results in pressure on the system to increase the standards related to specialization.

As a matter of interest, the United States has gone much further than we have in this direction. The role of the GP (general practitioner), for example, has been largely retained in Canada. Patients still go through a GP for referrals to a specialized service, whereas in the United States, the GP is often bypassed in favour of a specialist. This is happening, of course, in many other areas as well, with RNs (registered nurses) now performing functions that nursing students would have performed 10 or 15 years ago, and so forth.

McRae to Brown:

I have a question on trade in medical services. It's my impression that fees for specialists are much lower in Canada then in the United States, partly owing to the different organizational structure in Canada, but also due to malpractice suits and things of that sort. Do we sell hospital and physician services to Americans and, if not, is that something that could be done in Canada?

Brown to McRae:

With regard to the final part of your question, the answer is no, we don't sell very much in the way of specialized medical services to Americans. Almost all of the sales of the Canadian health delivery system that would be defined as exports go to tourists who require medical attention while here.

You were referring, I expect, to high profile surgery of the sort sought by persons who have a serious medical problem and want the very best specialist available. In these cases, I think, the Canadian patient generally travels to the United States rather than the reverse. I don't think, however, that quantitatively it's terribly important, and I also suspect that much of the import of American specialist care to Canada is needless, and reflects our illusions of a difference in quality between Canadian and American surgeons.

Grubel to Brown:

May I just add, as a matter of interest, that Singapore has made a special deal with its neighbouring countries to provide them with expertise that the latter have not yet developed. England, too, exports a lot of medical services and it's a matter of prestige for many people to have been treated by a Harley Street doctor. I don't think we've developed this yet in Canada, although I believe the potential is there.

Stanbury to Brown:

I wonder what issues, such as future employment prospects, you have been able to identify?

Brown to Stanbury:

My feeling about the direction in which the Canadian health care system is going is that health care expenditures will continue to be held relatively in check, and that there will be little growth in employment in the sector. The problem I think the system will face is how to innovate without destroying the system we've got. Somewhere along the line we will need to find a way of eliminating needless health services, or those which do nothing to improve the consumer's quality of life, without giving the consumer a sense of going without. One illustration of these types of service include diagnostic testing for diseases we can't cure. What can we do when the disease is detected? The Children's Hospital in Calgary routinely does urine tests on every child admitted, apparently for no particular purpose. I think this sort of process will have to be examined.

Goulet to Brown:

I have three questions. The first concerns the productivity in the health care field. In your presentation, you suggested two possible explanations for some funny figures you have encountered in your research. One is the possibility of doctors splitting fees, and the other is that doctors were perhaps increasing the demand for their services by providing unnecessary services. Is it not possible that demographic reasons have contributed to this increase in productivity, notably the ageing of the population?

My second question regards your remarks that the need to control health expenditures as a proportion of GDP may have resulted in a reduction in quality. You then argue, however, that the claim is not tenable, because the data show no increase in mortality figures. Is it perhaps possible that people are staying sick longer, that quality of life has been deteriorating?

Finally, I wonder about your claim that unnecessary treatment must be eliminated. You point to urine tests at the Children's Hospital in Calgary as an example of such needless service. How is the science of medicine expected to progress without such testing, experimentation and research?

Brown to Goulet:

In answer to your question regarding the connection between ageing and productivity figures, I did look at these and concluded that if demographic factors are changing things, they are doing so very slowly. I have evidence on this which has not been presented at this conference.

Your second question was about the connection between reduced services and reduced quality of services. One does have specific anecdotal evidence of people who needed, for example, various vein operations and didn't get them. From the epidemiological side, however, it seems that in areas where services have been reduced, there have been no changes in mortality rates, or in aggregate figures showing days of work missed, etc. It is still possible to argue, however, that the real evidence of reduction in quality of service has somehow fallen through the cracks, since there is no reliable method of gauging quality.

Finally, on the issue of unnecessary care, I think that operations performed for the sake of progress should be kept in the experimental stage until the results of the operation are clear. What happens when operations are taken out of the experimental category is that they are then offered to a much broader range of people. Once operations are categorized as being effective, it's no longer considered ethical to withhold them from anyone who needs them, and it becomes much harder to assess how much difference the operations make to the life expectancy of the people on whom they are performed.

Elementary, Secondary and Vocational Education in Canada: Some Preliminary Results

Stephen T. Easton
Department of Economics
Simon Fraser University
Burnaby, British Columbia

Introduction

Canada's elementary and secondary school system currently absorbs over 2 per cent of the workforce and services nearly one-fifth of the current population at a cost well over 20 billion dollars a year – about 5.5 per cent of the gross national product (GNP). Over 95 per cent of the Canadian-born adult population has attended public school, and although there have been vast changes in public schools over the years, there has been remarkably little analysis of the way in which the schooling system is fulfilling the demands of Canadians for efficient education. In this preliminary report, I place the elementary and secondary educational system into some kind of industrial perspective and then identify several of the issues that are of particular relevance for analysis of the efficiency of the school system. Vocational education is a heterogeneous set of programs which amounts to 10 per cent of the expenditures on elementary and secondary schools. Relatively little can be accomplished with the aggregate figures because of the diversity within the aggregation.

Industry Size

The size of the education sector of the service economy has waxed and waned primarily with the number of students. At least that is what we like to think. Table 1 displays a number of quantitative characteristics of the public school system as it has evolved during the last 35 years. Columns 1 and 2 show the rise and fall of the student population over that time. Columns 3 and 4 describe the evolution of the teaching work force. One thing becomes immediately apparent from the figures. Although the number of teachers during the 1960s (and into the 1970s) rose with the increase in student enrolments, the decline in student population has not been reflected in a decline in the teaching force.

Expenditures on public schools have risen during the 35 years as well. Table 2 reveals a growth in spending relative to gross national product from 1.8 to over 5 per cent. And, as in the case of teachers, the share of national income devoted to education has not declined in proportion to the reduction in numbers of students since the mid-1970s. There has also been a substantial shift in the revenue source of educational finance. Public schooling increasingly has been provided by expenditures at the provincial level with a corresponding reduction of expenditures taking place at the municipal level.

The Current Level of Education

And what is it that Canadians have obtained as education over the years? Table 3 shows the number of years of schooling completed as of 1984. One fifth of the (over age 15) population has less than a grade nine education completed. The split between men and women is roughly even. Fifty per cent of the population has obtained some high-school education, while some 20 per cent of the population has post-secondary training of some kind. Approximately 10 per cent of the population has a university degree, and 40 per cent more men (as a fraction of the relevant population) than women have obtained it.

There has been an increase in the number of years of schooling. Of those aged 15 and over, the decade of the 1970s saw an increase in the median years of schooling from 10.6 to 11.8. Table 4 shows that the increases have taken place in every province although relative rankings have changed little and there has been a slight decrease in dispersion overall pointing to a gradual reduction in disparities between East and West.

The Value of Education

But the raw numbers describing the patterns of education found in the Canadian population should be supplemented by a measure of the value of education to Canadians. There are several ways in which this can be measured. From the point of view of economic growth, education can be identified as a factor input into the economy's production process. Those who have higher educations are more productive, and thus higher levels of education will be identified with higher levels of national income. Growth in educational achievement will be associated with higher rates of growth of national income. Although there are estimates of such relationships in the 1960s, with education's contribution providing an explanation of 12 per cent of GNP growth (Bertram 1966), little research has been accomplished based on more recent data. Part of the problem has been that this technique fails to measure the cost of the provision of education as a (negative) part of education's contribution. Thus a more sophisticated calculation is called for, and studies describing the relevant parameters of the economy's production technology have yet to be estimated.

A second important technique for estimating the importance of education is that of the rate of return calculation. In this case the costs of education are subtracted from the income that is attributed to education over the worker's lifetime. With appropriate discounting, a measure of the return to the years spent in school can be derived. Insofar as the public schools are subsidized by the taxpayer there is both a (private) return to the student who does not pay all the relevant costs, and a (public) return. The public rate of return counts all educational costs incurred against the increases in income resulting from an additional year of education while the private return looks only at the opportunity costs incurred directly by the student. Unfortunately, there are few such studies that analyze the returns to elementary and secondary schooling. But there have been studies of higher education. Table 5 displays recent evidence. The private returns vary substantially by province ranging from 7 to 14 per cent. In conjunction with the law of diminishing returns, the observation that the population has more years of schooling in the West than the East allows us to anticipate the result that the rates of return to higher education are higher in the East than in the West. The same law of diminishing returns also enables us to infer that the rate of return on elementary and secondary schooling will be higher than that on university education. Since elementary and secondary schooling involves more students and (likely) higher rates of return than university, greater efforts should be made to measure the yield to various years of lower educational schooling.

The Cost and Efficiency of Elementary and Secondary School Education

The average cost of public education has risen steadily. In all years (save two) between 1961 and 1981, the real cost per student rose faster than the corresponding rate of real per capita national product. Over

the period 1960-1982, real per student costs of education rose from $900 to $3,015 (in constant 1981 dollars). Increasing teacher salaries contributed almost 40 per cent to the 6.1 per cent average annual per student (real) cost increase. Twenty-five per cent of the cost increase was due to decreases (of 30 per cent) in the ratio of students per educator in the school system.

Canadian teachers have increased their salaries substantially over the past 30 years. Salaries have almost doubled relative to the average industrial and manufacturing wages in Canada, and they have doubled relative to salaries paid to teachers in the United States. Canadian salaries are paid on the basis of teachers' education and experience, and although these have both increased in recent years, we do not have a systematic explanation for why teachers have gained so much relative to others in society.

Over the last 25 years the ratio of students per educator has fallen from 26 to 18. This decline has taken place throughout Canada, and we have little or no theoretical basis to predict when it will stop. Table 6 indicates the changes that have occurred across the provinces over the past several decades.

The rapid increases in cost and the general unhappiness with public education manifest in the past few years suggest that the cost increases have not been matched by an increase in the quality of education. Indeed neither increasing teacher salaries, nor higher teacher to student ratios indicate a better quality of education. There is little to suggest that the educational system is efficient. Even if lower student to teacher ratios are desirable, and we assume higher salaries mean better teachers, there is no way to identify whether we have approached a more satisfactory quality of teacher and more effective student-teacher ratio relative to cost than in the past.

Private and Vocational Education

Private school enrolment in Canada amounts to 4.7 per cent of all students. As elementary and secondary education is a provincial responsibility, there are many different arrangements among the provinces. Separate schools, financed all or in part by provincial funds are not included in the private school totals in some provinces, but are counted as private in others. The relatively large proportion of students in private schools in British Columbia may be a function of recent legislation that enables parents to receive what is in effect a voucher to defray some of the costs of private schooling.

The data on vocational education expenditures include a number of programs. There are government-sponsored training programs which are provided by technical institutes, public trade schools (of which there are relatively few now), and community colleges. At the level of vocational non-postsecondary, data include apprenticeship and training-in-industry allowances that are paid to trainees, language courses for federal employees, trades training in provincial reform schools, fire department training, forest ranger schools, police training institutes, and staff training in different provincial and federal departments and agencies. Private business and trade school courses including dance, music and driving are also covered. As of this time, aggregate analysis of such diverse categories which involve about one-tenth the expenditures of elementary and secondary schooling seems uninformative. A separate, detailed analysis on a program by program basis would have to be done to provide an insight into the operation of vocational training systems.

Table 1
Industry Size
Public Schools

Year	Number of Students (millions)	Per cent of Population	Number of Teachers (thousands)	Per cent of Employment
1950	2.4	17.4	89.7	1.77
1960	4.0	22.4	153.0	2.55
1970	5.7	26.6	262.5	3.31
1980	4.9	20.2	261.5	2.44
1986*	4.7	18.3	254.9	2.17

Sources: Wilkinson (1986, p. 537); Statistics Canada, 81-220 and 81-202 various issues; 81-568, p. 159; Statistics Canada (1975, Series D129), and series D767286.

Notes: * estimated values

Table 2
Expenditures

Year	Total Expenditure on Public Schools (millions of current $)	Per cent of GDP	Share of Elementary and Secondary Financed by Each Level of Government (per cent) Federal	Provincial	Municipal
1950	328	1.8	3.6	37.8	58.6
1960	1224	3.2	4.1	43.5	52.4
1970	4638	5.4	5.9	57.4	36.7
1980	14730	4.8	2.7	68.8	28.5
1986*	21583	5.4	n.a.	n.a.	n.a.

Source: Wilkinson (1986, p. 537 and p. 549); Statistics Canada, 81-229, p. 165, and 81-220 (1986, p. 29)

Notes: *estimated values

Table 3
Years of Schooling Completed: 1984

(Population aged 15 and over)

Canada	Less than Grade 9	High-School	Some Post-Secondary	University Degree
Males	20.7	48.4	19.5	11.5
Females	19.8	51.5	20.7	8.0
Total	20.2	50.0	20.1	9.7

Source: Statistics Canada, Catalogue 81-229 (1985, pp. 225)

Table 4
Median Years of Schooling
(Ages 15 and over)

Province	1971	1981
Newfoundland	9.4	10.5
Prince Edward Island	10.1	10.9
Nova Scotia	10.3	11.2
New Brunswick	9.8	11.0
Quebec	9.8	11.4
Ontario	10.9	12.1
Manitoba	10.6	11.4
Saskatchewan	10.4	11.4
Alberta	11.3	12.3
British Columbia	11.4	12.3
Canada	10.6	11.8

Source: Statistics Canada, Catalogue 81-229 (1985, p. 254)

Table 5
Returns to Higher Education In Canada

	Return to Education (men, 1981)	
	Private Return	Public Return
	(Per cent)	
Atlantic		
3 years	14	9
4 years	12	8
Quebec		
3 years	14	10
4 years	13	9
Ontario		
3 years	11	8
4 years	9	7
Prairies		
3 years	9	7
4 years	7	6
British Columbia		
3 years	10	7
4 years	8	6

Source: (Vaillancourt and Henriques 1986, p. 454)

Table 6
Student-Teacher Ratios by Province
(1960-1986)

Province	1960	1970	1980	1986	Percentage change From:	
					1960-86	1976-86
Newfoundland	29.9	25.0	19.2	17.4	-41.7	-15.1
Prince Edward Is.	25.2	19.1	19.6	19.9	-21.2	2.1
Nova Scotia	26.9	21.5	17.5	17.0	-37.0	-11.3
New Brunswick	26.0	21.5	19.6	19.4	-25.2	-8.8
Quebec*	24.0	20.4	16.1	16.2	-32.6	-16.2
Ontario	28.2	21.8	20.0	19.1	-32.1	-6.1
Manitoba	25.4	21.4	18.3	17.8	-30.0	-9.9
Saskatchewan	24.2	22.5	18.9	19.3	-20.1	-5.8
Alberta	25.0	20.9	19.4	18.9	-24.5	-7.3
British Columbia	27.1	24.4	19.4	20.4	-24.7	0.1
Yukon	25.3	24.4	18.2	17.2	-32.1	-4.6
Northwest Terr.	27.1	19.3	18.2	20.0	-26.1	4.8
CANADA	26.1	21.6	18.6	18.3	-30.0	-8.7

Source: Statistics Canada, *Education in Canada*, 81-210 (1986), 81-220 (1986), 81-229 (1980, 1984), 81-568.

Note: * The data for Quebec are almost all estimated rather than actual values. This leads to some peculiar discrepancies in the ratio.

Table 7
Fraction of Elementary Students in Independent Schools, 1986-87*

Province	Number of Students	Per cent of all Students
Newfoundland	320	0.3
P. E. I.	55	0.2
Nova Scotia	1,970	1.1
New Brunswick	750	0.5
Quebec	98,670	8.6
Ontario	66,510	3.6
Manitoba	9,630	4.6
Saskatchewan	3,010	1.5
Alberta	15,340	3.3
British Columbia	34,790	6.7
Canada	231,045	4.7

Source: Statistics Canada, Catalogue 81-220 (1986).

Note: * Estimates.

References

Bertram, Gordon W. 1966. *The Contribution of Education to Economic Growth*, Staff Study No. 12, Economic Council of Canada, June 1966. Ottawa: Queen's Printer.

Canada. 1974. Statistics Canada, Information Division, *Canada Yearbook, 1974*. Ottawa: Ministry of Industry Trade and Commerce.

_____________. 1975. Statistics Canada, Information Division, *Canada Yearbook, 1975*. Ottawa: Ministry of Industry Trade and Commerce.

_____________. 1985. Statistics Canada, Information Division, *Canada Yearbook, 1985*. Ottawa: Ministry of Industry Trade and Commerce.

_____________. 1975. Statistics Canada, *Historical Statistics of Canada*, Second Edition, Ministry of Supply and Services.

_____________. 1978. Statistics Canada, *Historical Compendium of Education Statistics: From Confederation to 1975*. Ottawa: Ministry of Industry, Trade and Commerce. Catalogue 81-568, Occasional.

_____________. 1984. Statistics Canada, *Education in Canada: A Statistical Review for 1982-83*. Ministry of Supply and Services. Catalogue 81-229, Annual.

_____________. 1987. Statistics Canada, *Financial statistics of education: 1982-83*. Ministry of Supply and Services. Catalogue 81-208, Annual.

_____________. 1973. Statistics Canada, *Education in Canada: A Statistical Review for the Period 1960-61 to 1970-71*. Ottawa: Information Canada.

_____________. 1986. Statistics Canada, *Elementary-Secondary School Enrolment: 1984-85*. Ministry of Supply and Services. Catalogue 81-210.

_____________. 1986. Statistics Canada, *Advance Statistics of Education: 1986-87*. Ministry of Supply and Services. Catalogue 81-220, Annual.

____________. 1985. Statistics Canada, *Salaries and Qualifications of Teachers in Public Elementary and Secondary Schools: 1983-84*. Ministry of Supply and Services. Catalogue 81-202, Annual.

Vaillancourt, Francois and Irene Henriques. 1986. "The Returns to University Schooling in Canada", *Canadian Public Policy*, Vol. 12, No. 3, pp. 449-458.

Wilkinson, Bruce W. 1986. "Elementary and Secondary Education Policy in Canada: A Survey," *Canadian Public Policy*, December, pp. 535-572.

Discussion: Education

Weiermair to Easton:

How can one discuss education without measuring quality in some way? It's possible to simply argue about productivity without making reference to the quality issue, but this misses an important dimension of the problem. The Organization for Economic Cooperation and Development (OECD), for example, did a study in which Canada was ranked very low in terms of quality overall, with some provinces doing better than others.

Easton to Weiermair:

The issue of quality is a very important one, but the measures of quality available are just terrible. What we really need are economists to measure quality – which is, in effect, a measure of how much it adds to the quality of life of the consumer. In Canada, we don't have any kinds of systematic testing with which to measure the output of our students. There is no national testing such as there is in the United States with scholastic aptitude tests (SAT). Standardized testing, of course, would only provide us with a piece of the puzzle, and would have be related to job characteristics of employment and other characteristics of later life. The cost studies which have been done don't seem to be related to these other measures. The inputs are measured in terms of the cost per student, and not related to any measures of productivity in terms of the value-added per student. In my report, I do discuss some of these measures, but they are all very limited.

McRae to Easton:

What struck me about your presentation is how much the education system has the structural characteristics of a regulated industry – relatively high wage rates, some signs of production inefficiency, etc. If that analogy holds, what are the key control variables that have allowed the participating institutions to organize effectively, and to maintain the regulated structure? Is it simply entry control, or price control, or is it something more, for example, shifting of the fiscal burden of schools away from the municipal taxpayers to the general population who are less able to articulate the costs of the school system?

Easton to McRae:

One of the reasons I am emphasizing the municipal-federal, municipal-provincial relationships is to suggest that there may be something there. I don't know if there has been any systematic study of this issue, but I think it is an important question. Other arguments in the literature suggest the possibility that there has been an increase in teacher militancy. I'm not quite sure what to make of that, and neither are the labour specialists I've consulted. Perhaps it could be tied into the shifts in spending control you noted. My own supply and demand model had somewhat disappointing results in that the demand curve for teachers turned out to be relatively inelastic, and the supply curve relatively elastic, which of course shifts everything. I haven't yet been able to do better.

Stanbury to Easton:

You might want to look at Mark Thompson's work in which he looks at multiple jurisdictions in British Columbia for the purposes of comparing the result of compulsory arbitration. He concludes that teachers did better under compulsory arbitration than they did in conventional bargaining.

Easton to Stanbury:

Yes, I'm familiar with his work. My difficulty is that at this level of generality, I'm looking at the establishment of compulsory arbitration as part of the process. The question is why we choose to allow lower student-teacher ratios when there is no evidence that it improves the quality of the teaching. Malcolm Brown remarked in his presentation that we don't know how to measure output. I think it's the same here.

Watson to Easton:

I'd like to know the degree of teacher unionization in Canada in comparison to the United States. I'd also like to know whether you have any figures on the level of education of various age groups. Is the average 30-year-old, for example, more educated than he/she used to be?

Easton to Watson:

The answer to your first question is that basically most teachers in Canadian public schools are unionized or associated, whatever you would like to call it. Initially I had hoped to correlate the dates of unionization with wage increases and correlate these with some political shift variables accounting for changes in government. However, the fact is that all teachers have been unionized since the 1930s, and since the end of World War II, unionization has been a right, so there is no relevant data set.

I don't exactly know what happened in the 1950s and the 1960s, but in the 1960s, things seemed to explode. I don't know whether it was the demand side, whether the public suddenly decided that more resources should be allocated to the education of their children, or whether some sort of hostage model is relevant. Others have done some work on this, and I think they would join me in welcoming some more research on this question. It's really quite mystifying. Something like it happened in the United States, but nothing like the degree to which it happened here.

Dobell to Easton:

Surely, part of the answer to this question lies in the changes in the social climate following the depression and the war. Specifically, I am referring to commitments in health and social insurance, social security and education which were all part of the determination that previous mistakes would not be repeated, and a willingness to invest quite a lot to ensure a better educated population.

I've been puzzling over the remarks regarding student-teacher ratios and the lack of statistical evidence of a correlation between low ratios and quality of education. I have the impression, however, that there is some evidence on revealed preference, in that if one looks at the advertising of private schools, the aspect emphasized most is the high ratio of teachers to students, and the personal care and attention which is made possible by this. I would have thought the willingness of the public to allow lower student-teacher ratios was mirrored in the emphasis placed by the independent schools on that same feature of the system, even though the statistical evidence doesn't show much of an increase in effectiveness.

Easton to Dobell:

I'd like to approach this question in a couple of ways. First, I'd like to note that private schools in Canada have never constituted a large proportion of the population. They account for somewhere between 2 and 4 per cent of the school-age population, so I don't know how much influence they have over the public school system, although it may be true that they do have some.

Secondly, private school student-teacher ratios have remained relatively constant at 18 to 19 since 1960. I had a lot of trouble finding out how much of an effect the demographic shifts in elementary and secondary school had on that ratio relative to the public school system.

If this is to be a basis for comparison, and it strikes me as a bit of a jump, where should we stop? The public school student-teacher ratio has gone from 26 to 18, except in British Columbia, where it recently rose from 18 to 19 in the last three years. I don't think there is a basis in any of the literature for reducing it any further.

Household Service Consumption and its Monetization

Herbert G. Grubel, Project Leader
Study of Canadian Service Industries
and
David L. Hammes, Economist
The Fraser Institute
Vancouver, British Columbia

The share of employment and national output generated by the service industries in the United States and Canada has risen from about one third at the turn of the century to over 70 per cent in 1985. Our understanding of the causes and nature of this growth of employment in service industries is aided by considering the following three distinctly different sources of demand.

First, there is the service industries' output purchased by consumers. Second, there is that provided by the government in the form of general public services such as protection, justice and defence; and social benefits, such as education, health and welfare. Third, there are the services which are bought for use as intermediate inputs into the production of other goods and services. In the case of Canada in recent years each of the first two major sectors of the service industries employs about one quarter and the third one half of all workers in the service industries.

In this paper we study closely the determinants of the quantity of services bought under the first category of demand. We do so primarily to estimate the effects of increases in the female labour force

---

This paper consists of excerpts from a paper entitled: *Household Service Consumption and its Monetization, or How Much of Each Other's Laundry are we Doing?*, by Herbert G. Grubel and David Hammes.

participation rates which have resulted in what we call the monetization of household activities.

Our study derives its importance from the asymmetric treatment of market and household production in the national income accounts. Under this accounting system entry of women into the labour force raises estimates of national income. On the other hand, reductions in the home production of the services accompanying this move are not reflected in the estimates. For this reason the monetization of the household sector biases upward estimates of real growth in income and welfare and the phenomenon is often referred to as the undesirable process of "taking in each other's laundry." Our analysis permits us to quantify this phenomenon for the first time.

In our study we draw on national income account estimates of service consumption expenditures. Our approach differs from well known consumption function studies[1] in two important ways.

First, we consider the consumption of all consumer services rather than demand functions for narrowly defined categories of services. Second, as already mentioned, we attempt to model the structural shift in the demand for services implicit in the monetization of household activities. This results not only in estimates of the degree of monetization, but it also improves the econometric estimates of price and income elasticities of demand for services. The results suggest that the income elasticity of demand for consumer bought services is about .6 rather than the 1.0 found in the literature and accepted as the conventional wisdom.

Income and Price Variables Alone

Figure 1 shows the consumption of services in the United States as a proportion of total consumption expenditures in nominal and real terms between 1950 and 1982. Figure 2 shows the same basic data for Canada, covering the years 1961-1985.[2]

As can be seen, the proportion of current dollar household budgets devoted to the purchase of services in both countries has risen steadily during the years under study. However, in 1971 real dollars, the proportion has grown much more slowly for the United States. In the case of Canada, it has been virtually constant around 44 per cent. Our econometric efforts are directed at an explanation of the fluctuations of the ratio in real terms that is seen clearly in the two graphs.

We use the conventional model for the estimation of demand functions for individual goods and services found in Houthakker and Taylor (1966) and Phlips (1974). It postulates that the consumption of services (S) is an increasing function of total expenditures (TE), both expressed in real terms and per capita, and a decreasing function of the price of services relative to non-services in the expenditure basket (PS).[3] It also assumes that the supply of the individual service is infinitely elastic at the observed prices so that there is no identification problem. The result of our econometric estimation is as follows.

U.S. Data

$$\underset{}{\mathrm{Ln(S)}} = \underset{(-3.3)}{-1.651} + \underset{(18.62)}{1.092}\,\mathrm{Ln(TE)} + \underset{(2.98)}{0.25}\,\mathrm{Ln(PS)} \qquad (1)$$

The number of observations is 33, R^2 is .998, the Durbin-Watson statistic is 1.64 and the t-values are shown in parenthesis underneath the relevant coefficients.

The coefficients on the two variables are statistically significant at the 1 per cent level of confidence and the Durbin-Watson statistic is in the acceptable range. The value of the income elasticity is consistent with that found in the literature cited above. However, the sign on the price variable is positive and not as expected.

Canadian Data

$$\mathrm{Ln(S)} = \underset{(-8.6)}{-1.175} + \underset{(16.81)}{1.172}\,\mathrm{Ln(TE)} - \underset{(-2.48)}{0.39}\,\mathrm{Ln(PS)} \qquad (2)$$

The number of observations is 25, R^2 is .989 and the Durbin-Watson statistic is .42.

The coefficients on the two variables are statistically significant at the 1 per cent level of confidence and have the theoretically expected sign. The values of the income and price elasticities are within the range found in the studies of the demand for services noted above. However, the size of the Durbin-Watson statistics reflects a high degree of auto-correlation of residuals which in turn is suggestive of the omission of important explanatory variables.

It is clear that the data for both countries do not support strongly the basic model which argues that the demand for services is an increasing function of total expenditures and a decreasing function of the relative price of services.

Female Labour Force Participation Rates and Demand for Services

In the longer paper, we have developed a theoretical model that shows an exogenously given increase in female labour force participation rate results in an increase in the demand for services bought by households. Because of a lack of time this model cannot be developed here. Its basic argument is that market services are purchased because they are no longer produced by females after leaving the household to work in the formal market.

This theoretical model causes us to postulate that female labour force participation rates (F) should be an argument in the demand function for market services and that the partial derivative with respect to service demand should be positive:

Demand: $S = f(TE, PS, F),\ dS/dF > 0.$

We retain the assumption made in the demand studies cited above and consider that the supply of market services is infinitely elastic with respect to price:

Supply: $PS = g(F, Xi).$

Under this assumption the participation rate is assumed to influence the price of services as are the factors, Xi, exogenous to the demand for services.

As the system is recursive we may estimate the demand function by OLS techniques. The econometric estimates reflect purely a movement along each of the three functions determining the demand for services. The validity of our assumption about the infinite elasticity of supply of market services can be defended on the following grounds.

First, it is the influence of a changing participation rate, F, on the demand for services that we wish to measure. Modelling this as a recursive system separates the influences of the participation rate on both supply and demand from one another while allowing us to estimate using OLS. Influences of the participation rate on the supply of services will be captured through the coefficient on PS in the reduced form. The influence of the participation rate on the demand for services will be given directly by the coefficient on F. Consequently, we may make statements about changes in the equilibrium quantities of consumer services purchased due to changing demands for consumer services brought on by changing participation rates.

Second, U.S. employment in the consumer market service industries in 1982 was approximately 26.3 million full time equivalent employees (U.S. Department of Commerce-Bureau of Economic Analysis 1986). This amounted to about 30.6 percent of total (full-time equivalent) employment for the year.

Conditions were much the same in Canada where in 1985 the consumer service industries employed about 2.7 million people, who represented only about 24 per cent of the total labour force.

Throughout the period under study this fraction and therefore the real service demand per capita have remained almost constant.

Third, in both countries the factor inputs in the consumer service industry such as labour and capital are not specialized. It may be presumed that they can and have been attracted from other industries through only marginal increases in payment.

Fourth, the increase in the relative wages of women, which have been associated with the increases in female labour force participation rates during the period under observation should not be interpreted as evidence of increased demand for labour from the consumer service industries. As a number of studies have shown, these wage gains of women relative to men are explained almost totally by relative increases in the human capital of women. These increases in human capital in turn are attributable to changes in taste and technology which take us far beyond the scope of this paper.

Econometric Results

The econometric results of our model under the preceding assumption are as follows.

U.S. Data

$$\begin{array}{llllll} \mathrm{Ln(S)} = & 1.049 + & 0.639\,\mathrm{Ln(TE)} + & 0.446\,\mathrm{Ln(F)} - & 0.058\,\mathrm{Ln(PS)} & (3) \\ & (1.08) & (8.45) & (3.47) & (-0.89) & \end{array}$$

The number of observations is 33, R^2 is .999 and the Durbin-Watson statistic is 1.74 (corrected for first order auto-correlation).

Canadian Data

$$\begin{array}{llllll} \mathrm{Ln(S)} = & 1.009 + & 0.348\,\mathrm{Ln(TE)} + & 0.703\,\mathrm{Ln(F)} - & 0.007\mathrm{(PS)} & (4) \\ & (6.86) & (6.09) & (15.42) & (-0.13) & \end{array}$$

The number of observations is 25, R^2 is .999 and the Durbin-Watson statistic is 2.07 (uncorrected).

As can be seen, for both countries all three regression coefficients have the expected sign and the coefficients on the total expenditure (TE) and female labour force participation rates (F) have t-values that make them statistically significant at the 1 per cent level of significance.

In the case of the U.S. data the sign attached to the relative price variable has switched to the expected negative and the Durbin-Watson statistic shows some improvement relative to the estimates using the simple model. The coefficient on the participation rate indicates that a 1 per cent rise in the female labour force participation rate is associated with a .45 per cent rise in the demand for marketed services.

In the case of the Canadian data the improvement of the Durbin-Watson statistic is dramatic and suggests that our model may have led to the inclusion into the estimation procedures of the variable omitted in the original calculations. Here, the coefficient on F implies that a 1 per cent rise in F is associated with a .70 per cent rise in the demand for marketed services.

Summary and Economic Implications

The female labour force participation rate in the United States rose from 33.3 per cent to 52.7 per cent between 1950 and 1982. This is a rise of 58.25 per cent. The results of Equation 3 imply that 26 per cent of the growth in real service consumption was due to the demand-driven monetization of previously unrecorded work by females. During this period real service consumption averaged 27.5 per cent of real gross national product (GNP). Therefore our results imply that 7 per cent of the increase in real GNP per capita would have gone unrecorded if female labour force participation rates had remained constant under current national income accounting practices. The impact may be larger in the later years as real service expenditures as a fraction of real GNP has ranged from .233 in 1954 to .324 in 1982.

Canadian data tell a very similar story, though the effects of increased female labour force participation have been relatively larger. The participation rate rose from 28.7 per cent in 1961 to 54.35 per cent in 1985, implying that 63 per cent of the increase in the consumption of services by households has been due to the monetization. The proportion of real market services consumed by households has remained roughly constant at 26 per cent of GNP which implies that 16.4 per cent of the increase in GNP was due to the monetization of household services demand.

One interesting implication of our findings concerns expected growth in demand for market consumer services. Since the female labour force participation rate is already rather high, further increases in the future may be expected to be smaller than they have been in the last 25 years. Under these conditions growth in demand for consumer market services will be slower than it has in the postwar years. If there is a change in tastes and family size increases, the participation rates may actually fall. Under these conditions, the demand for these types of services may be constant or fall absolutely in real terms.

A final interesting implication of our econometric results relates to the existing literature on the demand for services.[4] Our econometric estimates of the total expenditure elasticity of demand for household-bought services of only .64 for the United States and .35 for Canada are in strong contrast with the estimated elasticity of over one in the first two equations and the conventional wisdom that the income elasticity of demand for such services is high.

The idea that the income elasticity of demand for services is high stems from early budget studies by Engel and others. During the period from which the data for these studies were drawn, services were provided by servants for persons with high incomes. In recent times, on the other hand, it is quite possible that the income elasticity of demand is low since many efficient and low-priced substitutes in the production and consumption of services have been developed.[5]

Notes

1. The standard references in this field are internationally Houthakker and Taylor (1966) and Prais and Houthakker (1971). Schweitzer (1969) has analyzed Canadian data. Some recent, sophisticated estimates using Australian data are Tulpule and Powell (1978) and Bruce (1985).

2. In the case of Canada the starting year for the study was dictated by the availability of data. While consistent national income account statistics are available for the period since 1947, revisions completed in June 1986 go back only until 1961. See below for some information on the recently revised data.

   In the case of the United States newly revised national income data were published in 1986 (U.S. Department of Commerce/Bureau of Economic Analysis). Following the tradition of many studies we used the 1950 data as a starting point. The last year found in this publication was 1982.

   In our econometric estimates below, the service and total expenditures are the main dependent and independent variables, respectively. They are presented in ratio form here to show the critical relationship as efficiently as possible.

3. The income and service expenditure data are from Statistics Canada, CANSIM matrix 6708, series D 10131 and D 10147, respectively. Both series were revised in June 1986 and we should note that the old series had produced econometric results that were much different from those reported here.

   The relative price series was calculated by dividing the nominal dollar expenditures on services (CANSIM matrix 6707, series D 10126, revised June 1986) by real expenditures on services (D10147) and by dividing this ratio by the implicit price deflator for consumer "non-services," i.e., non-durables, semi-durables and durables (i.e., goods).

This implicit price deflator for goods is found by subtracting the expenditures on nominal services from total nominal personal expenditures on goods and services and dividing this difference by the difference between real expenditures on services subtracted from total real expenditures on goods and services. CANSIM (D10113 - D10126) divided by (D10131 - D10147). The ratio of nominal expenditures on goods to real expenditure on goods yields the implicit price deflator for goods.

The female labour force participation data are from Statistics Canada Series CS11-516E and 71-529.

4. See Fuchs (1985), Inman (1985) and Summers (1985).

5. Vacuum cleaners, dish and laundry washing machines substitute for the services of housekeepers. Television has taken the place of live entertainment services. Private automobiles serve in place of public transportation. Prepared food bought in stores has replaced cooks in the home and restaurant meals. It is interesting to note that in budget studies involving narrow classes of goods and services, income elasticities of demand for services range very widely from .5 to 3. Of course, weighted averages for these elasticities must be about one, as is evident from the data shown in Figure 1, which are very similar to those found in other countries.

   Some researchers have adopted sophisticated techniques such as the twice extended linear expenditure system and introduced constraints in the form of the so-called Frisch parameter in order "to ensure that the average elasticity of substitution among commodities, which proves very elusive to estimate on the basis of any one set of time series data, is consistent with the weight of the evidence on this matter." (Tulpule and Powell 1978, 2). This evidence suggests that our findings are not implausible, even though they stem from the use of a completely new model. Nevertheless it will be interesting to see results from use of our model in the context of other countries' experiences.

References

Browne, L.E. 1986. "Taking in Each Other's Laundry-The Service Economy," *The New England Economic Review*, July/August.

Bruce, I. 1985. "The ORANI 78 Input-Output and Parameter Files for 1977-78," *Preliminary Working Paper No. OP-51*. Impact Project Research Centre, University of Melbourne.

Fuchs, V.R. 1985. "An Agenda for Research on the Service Sector," Chapter 12. In *Managing the Service Economy*, ed. by R.P. Inman. Cambridge University Press.

Grubel, H.G. 1987. "All Internationally Traded Services are Embodied in Materials or People." *The World Economy*, 10, 3, September.

Grubel, H.G. and M.A. Walker. *The Canadian Service Industries*, forthcoming.

Hill, T.P. 1979. "Do-It-Yourself and GDP." *The Review of Income and Wealth*, series 25, number 1, March.

Houthakker, H.S. and L.D. Taylor. 1966. *Consumer Demand in the United States, 1929-1970, Analysis and Projections*. Harvard University Press.

Inman, R.P. 1985. *Managing the Service Economy*. Cambridge University Press.

McKenzie, R.B. with S.D. Smith. 1986. *The Good News About US Production Jobs*. St. Louis: Center for the Study of American Business.

Phlips, L. 1974. *Applied Consumption Analysis*. North-Holland Publishing.

Prais, S.J., and H.S. Houthakker. 1971. *The Analysis of Family Budgets*. Cambridge University Press, Second Impression, Abridged.

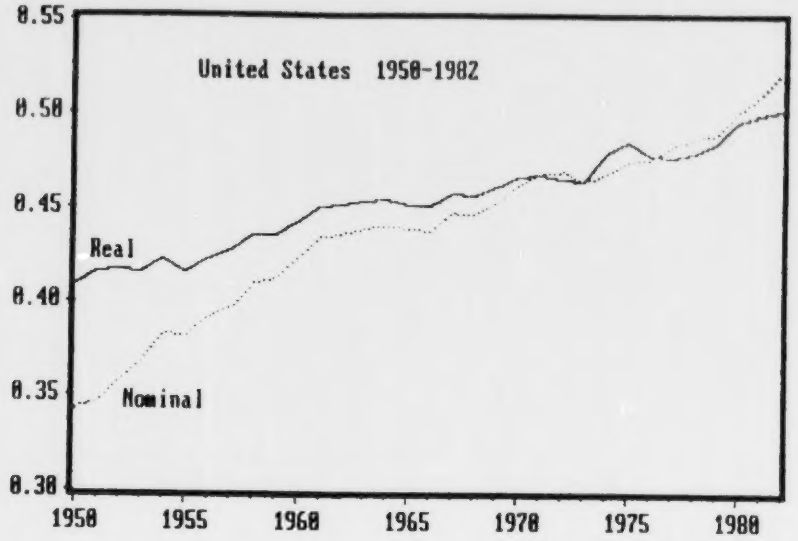
Schweitzer, T.T. 1969. *Personal Consumer Expenditures in Canada, 1926-75*. Staff Study No. 26, Economic Council of Canada, December.

Summers, R. 1985. "Services in the International Economy." Chapter 1. In Inman.

Tulpule, A. and A.A. Powell. 1978. "Estimates of Household Demand Elasticities for the ORANI Model." *Preliminary Working Paper No. OP-22*, Impact Project Research Centre, University of Melbourne.

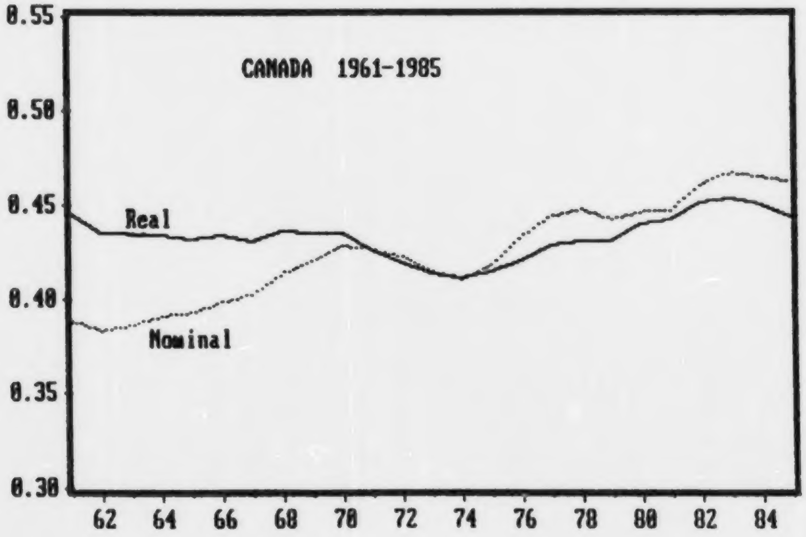
FIGURE 1

Real and Nominal Expenditures on Services as a Proportion of Real (1971 constant dollars) and Nominal Total Consumption Exp.



Source: U.S. Dept. Commerce/Bureau of Economic Analysis, 1986.

FIGURE 2
Real and Nominal Expenditures on Services as a Proportion of Real (1971 constant dollars) and Nominal Total Consumption Exp.



Source: CANSIM, real: D10147/D10131; nominal: 10126/D10113.

Discussion:

Household Services

Palmer to Hammes:

I'm puzzled and concerned about the coefficient on the last term in your equation. The confidence intervals, I gather, are pretty large around this coefficient, and it looks to me as if it is difficult to reject the hypothesis that the demand curve for services is vertical. I find that very unsettling as I've always taught my students that there's no such thing as a vertical demand curve.

Hammes to Palmer:

A priori, we don't know what sign should be on this variable. I find it rather encouraging that the demand curve for services is vertical because some of the forces will be shifting it one way, some the other. It's not really the demand for services, but these facts which are being measured.

McRae to Grubel:

Is it possible, given the different mix of quality attributes that can be assigned to household services, that consumers are judging quality by price, and this type of decision making results in the reversal of some of the usual microeconomic results?

Grubel to McRae:

That may well be. We don't have the resources to construct the implications of the behaviour you mention. You see in the simple model with only total expenditures and prices that the sign is correct and statistically significant, even though the curve is inelastic.

Unidentified to Grubel:

I have a few general comments. The first concerns the specifics of your quantitative research. I wonder if perhaps you might do a little more to identify the supply curve in terms of those forces, characteristics of the labour force, for example, that can be observed and would have an effect on the supply of these services. I think this might help to clarify some of your results.Also, technological and institutional changes have made many domestic services tradeable. Will this fact influence your elasticity estimates?

Grubel:

Modelling supply has given us a great deal of difficulty as we have not been able to identify what it is that shifts simultaneously with the increase in female labour force participation. We argued that even though it comprises 25 per cent of the GNP, the number of people working in the sector is still relatively small and, over the range of observations we have, the supply from the rest of the economy into this sector should be infinitely elastic as is the supply of the other factor inputs. Why that should make a great deal of difference to the supply curve is unclear, but I think you made a mistake in treating in the same breath those services bought by consumers and those traded internationally. The latter are a minute proportion. The future will be in the services which increase the productivity of other sectors – Adam Smith's type of specialization. The classic model has services as non-tradeable because the cost of transportation relative to the value of the services was so high. With technological and institutional changes, some are suddenly tradeable. However, I believe they're still not tradeable in the sense that other products are. Products are sold abroad and stay abroad. If a consultant goes abroad he sometimes comes back, and he sometimes doesn't. If he doesn't then he's an emigrant, not a service export. Statistics have to draw an arbitrary line to decide when someone is not coming back. As a challenging alternative to looking at trade in services in the same way one looks at trade in goods, I thought it was useful to look at embodied service trade.

Stanbury to Grubel:

I have trouble with the level of aggregation in your model, although I find the result very interesting. I wonder if you've considered running regressions, specifically on categories of household service expenditures that are clear substitutes to doing it oneself, or available on the market. I'd feel a little more comfortable about the zero elasticity element.

Grubel to Stanbury:

We haven't got the resources or expertise to do this. People have devoted lifetimes to producing disaggregated estimates. I don't see why there shouldn't be a meaningful aggregation called services. We can ask why, on average, such quantities are bought, and what, on average, determines the demand.

Unidentified to Grubel:

Why not write another equation saying simply that, female participation rates are a function of total demand for services and some other variable and have a system of two simultaneous equations?

Grubel:

What would you put in as the other variable? We tried unemployment insurance benefits relative to wages and other variables that are more remotely related, but we can't find anything. We take the female labour participation rate as an exogenous variable, determined by forces we can't model.

An Overview of the Retail and Wholesale Trade Sectors

Keith Acheson and Stephen Ferris
Department of Economics
Carleton University
Ottawa, Ontario

The Contribution of the Trade Sector to the Activity of Shopping

The demand for the services of the wholesale and retail trade sectors is derived from what we will call the activity of shopping. This activity is necessarily two sided: inputs are provided by the trade sector and combined with time and other inputs provided by buyers to effect a transfer of goods and services. It follows that productivity will increase when time or other inputs are economized upon. What is of more interest is that an increase in the resources used by the trade sector is also consistent with an increase in productivity if there is a more than commensurate fall in the inputs used by the buyer. The shifting importance of what is done by the trade sector (as opposed to consumers) in providing shopping services and the various dimensions along which this boundary can change makes the identification of industry output and productivity measures difficult.

To gain insight into the difficulties of interpreting the measures of output of the trade sector, consider a concrete example. Suppose that when playing squash with a friend, one is impressed with the performance of a new racquet and asks, "How much did the racquet cost?" The typical answer to this question will be the money price of the racquet. For our problem of measuring the activity involved in shopping for the racquet, this answer is both too expansive and too limited. On the one hand, the retail price of the racquet covers the cost of the resources used both to manufacture and distribute the racquet. On the other hand, the margin between the selling price and the factory cost is only one (sometimes small) element in the cost of shopping.

Because it is well recognized that the trade sector intermediates exchange between manufacturers and consumers, the output of the trade sector is often measured as the margin by which the final selling price exceeds the sector's cost of acquiring the product (real value added). With some items the price charged by a store exceeds the factory cost (plus freight) by a considerable amount and markups of greater than 100 per cent can arise. In such cases there is a tendency to interpret these margins as gouging by those who ignore the costs of providing trading services. Yet the absence of entry barriers across much of the trading sector constrains the size of trading markups. Competition among traders drives the value of the services provided by trade intermediaries into line with their costs, costs that include a premium for the risk borne by intermediaries and the opportunity cost of acquiring capital.

That markups represent more than a return to market power is reflected by the real resources used in the marketing sectors. In 1985, for example, labour use in the wholesale and retail sectors exceeded that in the manufacturing sector and, over the decade preceding 1985, trade sector employment has grown by over 20 per cent while manufacturing has remained roughly constant.[1]

The cost of shopping exceeds the retail margin because of the inputs supplied by the shopper and because other shopping inputs are acquired from commercial sources other than that specific retail store. One of the most important inputs provided by the consumer is time. Shopping time includes the time taken to travel to and from the store, to find the product in the store, to obtain information about in-store varieties, and queue for final payment. Before the shopper gets to the store, time is spent acquiring information on the price and quality of comparable products, different store options, store opening hours, and choosing among transportation alternatives. Even before the decision to buy, the squash player may have discussed with friends their experiences with different racquets, may have bought a consumer magazine that rated products, or may have read about the characteristics of a graphite racquet in a sports magazine, article or advertisement. The consumer is concerned not only with the performance characteristics of the product being purchased (what can it do and how reliably can it do it), but also with the quality of the ancillary information about how to operate the product and maintain it. In addition, the consumer seeks information about the durability of the product and thus the characteristics of warranties, and after-purchase service.

Another input that is usually provided by the shopper is transportation. Transportation services may be purchased directly by taking a bus or taxi. Alternatively, shoppers can drive themselves and incur transportation costs through their payments for gasoline, maintenance, vehicle depreciation, and parking fees. Shoppers can reduce these costs by taking turns driving, or by incorporating the shopping activity into a trip to work or by combining it with social activities. This bundling of shopping with other activities makes it difficult, and in some cases impossible, to disentangle a separate cost of shopping. Transportation costs will also interact with retailers' location decisions. A product may be sold through many small stores, decreasing the consumer's cost of travel between home and the nearest store. Alternatively, the same product may be sold in larger stores (situated further apart) that offer different dimensions of service (e.g., more convenient parking) that more than compensate for having to travel the further distance.

The expected costs of shopping to the consumer must also include the chance that a shopping trip will be unsuccessful. The store may be closed. The product may be out of stock or priced higher than expected. The store may not cash cheques, or take credit cards. The parking situation or lineups may raise the expected waiting time to such an extent that the shopper decides to return when there is less congestion. All of these costs (like the transportation case above) are influenced by the inputs provided by the retailer. Longer hours require additional staff, larger stocks require greater storage and easier access may require different spatial structures. These costs interact in turn with the inventory decisions, advertising strategy and credit policies of retailers and wholesalers.

The cost of shopping is calculated by adding together the value of all these separate components. To illustrate, consider again the squash racquet purchase. The margin of the selling price over the factory cost of the racquet is straightforward but includes the cost of intermediate inputs purchased from other sectors. Thus to isolate the value of labour and other primary inputs embodied in the trade function, the purchase of goods such as supplies to keep the store or warehouse clean or energy to keep customers and sales staff warm should be subtracted from the initial margin. Adjustments of this sort are made by Statistics Canada in their calculations of value added for sectors such as wholesale and retail.

Payments for the complementary services provided by other commercial producers, such as bus tokens and the price of magazines are also relatively easy to calculate. The inputs of the shopper, on the other hand, are more difficult to estimate. For shoppers who use their own car for travel, depreciation on the capital value of the automobile must be estimated. While this calculation is difficult to make for automobiles, these difficulties are relatively minor when compared to those of assessing the depreciation of the informational capital held by the consumer.

The information collected by a consumer is a capital asset that provides a flow of services for successive shopping trips. To see this, consider the dramatic increase in the cost of shopping that arises when you move to a new location. In new places answers to such commonplace questions as the following are frequently costly: Where is the freshest bread sold? Who has the best assortment of fruit? Which clothing stores have my styles, in my price range? Are the supermarkets open on Tuesday nights? Why are they towing away my car? One retailing response to the information problems of travellers is provided by the brand name of chains, department stores and franchises that promise to consumers a distinctive quality that is uniform over many towns and cities. It is then predictable that a stranger is more likely to shop (eat) in these outlets than a native who has acquired the informational capital to shop (eat) in the more interesting and idiosyncratic stores (restaurants) that add so much to urban and small town life.

It is easy to think of information as a capital asset, but this ease contrasts with the difficulty of actually measuring the value of the asset and the rate of its economic depreciation. In equilibrium, the value of an informational asset equals the cost of its production at the margin and since information is obtained through the expenditure of time, part of the problem is to identify (and evaluate) the time absorbed in this activity. A suitable measure for the value of time is also necessary to assess the value of the other time inputs into shopping. If the consumer could always adjust the time input of all activities by small increments, then the time spent in all activities, including shopping, would be valued equally at the margin. If, in addition, work was valued only for the income generated, then more shopping time could be evaluated by the net income foregone. However, given the institutional impediments to allocating time marginally between work, leisure and shopping (such as the discontinuity implied by a nine-to-five job), the value of time spent shopping may be considerably less (or more) than the payment for time spent working. Similarly, individuals frequently choose to work in jobs with lower salary than in other employment alternatives because it more than compensates with on-the-job satisfaction. In this case the wage rate understates the value of time at the margin. Casual empiricism also reveals that many individuals actually enjoy shopping as an activity, independent of whether a purchase is made or not. Taking this into account would reduce the imputed cost of shopping time.

Inputs Into the Retail and Wholesale Sectors

The trade sector hires individuals with diverse skills and educational backgrounds. For some individuals, employment in the trade sector represents a full-time career, for others it provides an introduction to first job experiences or an opportunity for part-time employment opportunities. As employment in the trade sector grows, it becomes more important to understand the differences in how the labour market operates in this sector. A number of questions are explored in the study of which this overview forms a part. Among the questions analyzed are: Is employment more stable over the cycle of economic activity in this sector than in manufacturing? If there is greater stability in employment, is it accompanied by greater variability in the earnings of those employed? Are the age and education profiles of employees in the trade sector different than that for the economy as a whole? Is the gender profile different?

An important part of our analysis involves relating the differences in the earnings of employees to the differences in employee demographic characteristics. We investigate how earnings in this sector are related to the quantity and quality of education, experience, on-the-job training, commitment and gender. How this relationship compares to that in other sectors is also studied. This background is then used to present some preliminary findings on the issue of comparative worth legislation.

Although the capital intensity of the trade sector is less than that of manufacturing, investment has been an important determinant of sector growth. In terms of its composition, the machinery and equipment component of total investment has risen relative to that of structures. The trend in total real investment has been slightly negative since the downturn following the oil shock in 1974. Around this trend real investment has exhibited a cyclical pattern that lags the business cycle and is more pronounced in machinery and equipment.

Innovations in technology, particularly in electronic technology, are affecting investment patterns and through this the nature of retail services. Increasingly technology is embodied in computers and communications networks. These have changed the coordination and integration of such in-store and warehousing functions as inventory holdings, storage and personnel use by utilizing more efficiently the information flow arising through the sales, purchasing and payments accounting systems. While these changes affect shopping by lowering traditional retailing costs, more recent technologies may dramatically change shopping patterns through the ability of consumers to place orders and "shop" without physically visiting the store or the wholesaler.

Location is an important aspect of the trade sector's ongoing interaction with consumers' search costs. The pull to centralization provided by the existence of economies of scale in consolidating inventories, dealing with unexpected variations in demands, and giving consumers a wider range of options in the same location, contests continuously with the geographically dispersive forces that result from the savings produced by bringing stores and wholesale services closer to customers. Coupled with the geographic distribution of purchasing power, the interaction of these forces determines the demand for store sites and consequently land rents.

Some very subtle issues in interpretation arise from the competition for sites. For example, the observation of four service stations at a street corner, or a row of pawnshops along a downtown city street, is consistent both with the dissipation of value through competition improperly channelled from other dimensions into location, and with an efficient spatial configuration that reduces consumer search, disciplines the pricing practices of individual outlets, and provides a desirable range of variety. Similarly, a huge new shopping centre that sits in an empty field in a remote suburb of a growing city can be interpreted as a catalyst for new residential development, alleviating existing congestion or as a pre-emptive and dissipating investment in the establishment of a property right.

As discussed above, technical improvements have frequently been embedded in the capital equipment purchased by the trade sector. Innovations in this category range from better fork-lift trucks in warehouses to code readers at the local supermarket checkout stand. Innovations in organizations have also improved the coordination of resources in this industry. Most often these changes were made to overcome information asymmetries or other impediments to effective coordination. Advertising with new media, developing brand names, establishing franchising arrangements, and developing retail chains, all address the issue of increasing economically the predictability of retail opportunities.

The introduction of shopping centres offers another example of organizational innovation. Shopping centres, through their ability to exclude, use membership conditions to control collectively harmful, purely redistributive forms of competition and foster complementarities that increase individual returns through group activities. Through the use of differential site rents a shopping centre can take into account externalities that are generated by some retail outlets for others. For example, a shoe repair outlet may not itself earn enough income to cover the cost of its space in an urban shopping centre, but its existence may draw customers who then shop at other stores, increasing their profits sufficiently to warrant its inclusion. In a street environment, the side payments from other stores necessary to entice a shoe repair outlet to locate near other stores may be prohibitively expensive to arrange because any single store that benefits has the incentive to free ride on the efforts of others. If all do this, no one pays and the shoe repair store fails. In a centralized shopping centre, however, the owner can attract the shoe repair concern through a lower rental rate. The organizer then shares in the additional benefit created by being able to rent the remaining space at higher average rates. Rules that require all stores to open and close at the same time, share in common expenses (such as advertising or parking) and conform to a common design etc., are common examples of similar types of internalizing activities.

Organizational innovations range from those that are evident to a shopper only through lower prices or a wider range of choice to those that change dramatically the pattern of life in our rural and urban communities. As examples of the latter, the shopping centre has become a new form of urban park, with entertainment and other leisure activities sharing the stage with retailing. In many cities the mall is the focus of teenage life and family outings, while in a few the mall has grown to tourist proportions. Electronic shopping and specialized catalogue sellers promise to widen substantially the range of products and services that can be economically purchased in rural communities.

Technical improvements in industries that supply inputs into the shopping activity can also influence the types and quantities of inputs demanded by the trade sector. For example, refrigerated trucks and boxcars allow the transportation system to distribute products over a wider domain and improve delivered quality. Advances in moving people, such as urban rapid transportation systems and automated traffic control, make movement and hence shopping cheaper. Both of these innovations affect store locations, investments in parking, merchandise mix in individual stores, and the average size of stores.

Conclusion

It is difficult in a few brief pages to capture the wealth of detail and information that is in an industry study. Rather than simply presenting the large list of numbers that we have collected for this study we have tried to give a feeling for the types of conceptual issues that our study addresses and a brief overview of some of the policy issues discussed at greater length in the study itself. We will have achieved at least one of our objectives if we have illustrated how a focus on services, in this case "shopping" services, raises real issues of interpretation for the usual measures of output and productivity when applied to the retail and wholesale trade sectors.

Note

1. Historical Labour Force Statistics, Statistics Canada, Series No. D772006 and D773266.

Discussion:

Retail and Wholesale Trade

Stanbury to Acheson:

I've had occasion recently to look at structural transformations in the supermarket industry, and I'd urge you to look at two developments in particular, which I think have implications for productivity and trade. The first is the growth of the "superstore," i.e., very large units typically covering an area of approximately 70,000 square feet, compared to 20,000 square feet for the conventional supermarket. The second is the evolution of 'scrambled' merchandising, i.e., the sale of food products by drugstores, for example. I think it would be worthwhile for you to examine selected subsectors of the retail trade market – there have been some fascinating changes in the way retailing and distribution is done.

The great development at the wholesaling end of the supermarket business is the automated warehouse, so highly automated that they can fill supermarket orders almost without human intervention. The retail/wholesale businesses may seem dull, but there have been some fascinating internal developments.

Acheson to Stanbury:

The usual difficulties in getting productivity measures are even greater in a sector such as retailing. A number of environmental factors, such as parking, accessibility, product availability, speed of service, and so forth, can't be compared from one region to another, which leads to cross-sectional problems when comparing real output. We have collected data on productivity, but we feel that productivity measures for this sector must be treated gingerly.

In the retail and wholesale sectors, unlike the medical and educational sectors, there has been continuous innovation, such as efforts to find better ways of combining labour and capital, of coordinating resources, and of addressing local demand through franchises. One of the problems in the medical and educational services, in our view, is the lack of innovation and experimentation with alternative structures of the sort we see in the United States.

These issues were not dealt with in any detail in our presentation since we did not think they would be of great interest in a conference of this sort, but we do have a continuing research interest in them.

Watson to Acheson:

My question concerns the degree of concentration in the retail industry. Is it your impression that this sector is more concentrated here than in the United States? Casual experience suggests that perhaps this is part of the reason for the higher cost of living here.

Acheson to Watson:

We don't have any figures on this, I'm afraid, although, I think competition figures overstate the concentration of the sector by not acknowledging many possible options available to the consumer.

Diewert to Ferris:

It seems to me that many of the productivity gains in the retail sector have occurred within the household sector rather than in the business sector *per se*, i.e., consumers are saving more time, and getting more out of the time we spend. This suggests that Becker's theory of the allocation of time might provide some insight into the household improvements responsible for some productivity gains. Have you looked into this?

Ferris to Diewert:

I'm familiar with the theory, although we haven't looked at it except to note that part of the cost of shopping is the cost of the time spent shopping, and this is reflected in the organization of stores which strive to attract different kinds of clients.

Grubel to Ferris:

Have you looked at the dispersion of the retail margins? These seem to be, on the one hand, giant supermarkets with low markups and increased efficiency, and, on the other hand, smaller, highly differentiated shops with huge markups.

Ferris to Grubel:

Stores which carry a certain range of standardized goods can offer a low margin with a guaranteed high turnover. With more specialized stores there is a much slower turnover rate and, hence, higher apparent markups.

De Melto to Acheson:

The retail sector is not usually viewed as an internationally tradeable sector, but two aspects of it that are becoming more important in the United States may be worth a look. The first is direct selling, in which it seems the United States would have a substantial advantage over us in a free trade arrangement. The second is franchising at the international level, in which the United States is again very active.

Acheson to De Melto:

We've been unable to find any statistics on direct sales in Canada, and the only statistics we've come up with regarding international franchising are in the balance of payment data, which don't include anything but direct franchise payments, and therefore don't capture payments as dividend from subsidiaries, such as McDonald's of Canada.

Government Service Sector Project Overview

Douglas Auld
President
Sir Sanford Flemming School of Natural Resources
Lindsay, Ontario
and
William T. Stanbury
Faculty of Commerce and Business Administration
University of British Columbia
Vancouver, B.C.

There are a number of difficulties in dealing with the service delivery aspects of the government sector. We are approaching them on two fronts: (1) dealing with the conceptual issues involving government goods and services as part of the service sector, (2) collecting data on employment growth, income distribution, productivity, etc. The first has been completed; the second is under way.

Some of the areas we will be dealing with include: the conceptual issues of government as a service; service delivery options theoretically available, empirical data problems used by various levels of government and efficiency measurement; the traditional approach to growth; earlier works on employment and output indicators; public sector employment; age, sex, language, education, income distribution; and various case studies.

The government services sector contains scores of distinct service industries, making it difficult to determine the appropriate level of detail for such a study. Some of this will be determined by the availability of data and our wish to integrate with, and avoid duplicating, similar concurrent studies.

This paper is an edited version of the verbal presentation at the conference.

Very few government services are sold in the marketplace. This has significant implications for the measurement of output, value added, and productivity. One difficulty will be in distinguishing between services provided "free" and those sold subject to some form of marketplace competition.

National accounts data are limited. There are also many conceptual problems in analyzing government services. Transfer programs are the largest and fastest-growing component of government spending. Some of the difficulties we anticipate in this area will be in distinguishing actual services from activities.

We intend to map changes in the way governments provide services, provide an empirical survey of the range of alternative methods, consider the incentives associated with each method of delivery, and look at the ways efficiency and effectiveness are assessed.

We will attempt to impose a new kind of order and methodology on our analysis of the service sector concept. Problems will be encountered with the lack of disaggregated data available to demonstrate all the characteristics of this sector, and the overwhelming amount of aggregated historical data.

Discussion:

Government Services

Dobell to Auld:

I'm intrigued with the notion of treating the government sector as a service industry, but struck with the magnitude of the problem. It seems to me that the key issue will be how to limit the study to what seem to be the core ideas – service delivery systems, contracting mechanisms, incentive structures and so forth. I don't think there is much to gain from examining questions regarding the cost of administering transfers or tax expenditures as aspects of a service industry until many more general questions are answered.

Auld to Dobell:

I think we're fortunate to have some of the major areas of government expenditure, such as education and health, being treated as separate issues. We will, of course, mention these in our conceptual overview of what does and does not constitute a service, but there will be no attempt to duplicate other research being done in these areas. As for our examining questions of tax expenditures and transfer payments which lie on the fringe of the government service sector, I think it's our intent to be general at the conceptual level, but selective in our empirical work. We expect that there will be a very long research agenda emerging from this paper.

Moroz to Stanbury:

The question of who collects government revenue is going to be a very important question, but I take it your study is concerned only with government expenditure and not with revenue. Quite apart from the question of who collects the revenue, it seems to me that how efficiently revenue for government services is collected is not an insignificant issue.

Stanbury to Moroz:

We do want to examine how some of these service revenues are raised, because some of them are raised in rather interesting ways. The government does charge for some of its public services. Some of the charges are voluntary, some are involuntary, some are true taxes. We don't, however, want to go into the whole question of federal-provincial fiscal arrangements, which has been extensively studied elsewhere. As part of our general conceptual overview, we will look at the question of services revenues, but not in any greater detail than to note general structural trends.

Moroz to Auld:

Will you be looking at the issue of duplication of services by various levels of government?

Auld to Moroz:

We will be looking at all levels of government, so to the extent that there is duplication of services we hope it will be revealed.

Ansmits (comment):

I was delighted with the way you have tackled the question of productivity measurement in the government sector. It's a tremendous data development problem, and I think most other countries have given up for the time being.

Gigantes to Stanbury:

I think you might be wise to expand your research horizons. If you are to redefine the output of the government sector in the area of transfer payments, you'll want to observe the effects of this on GDP and other kinds of transfers within the system. Otherwise I think your results may well be inconsistent. I have some reservations about putting this at the top of your research agenda, and I'm not too optimistic that you will discover an approach to the distinction between transfer and output that has not already been treated in the extensive literature available on this topic.

Stanbury to Gigantes:

We never intended to reinvent all of the work on transfer payments, nor to make any fundamental conceptual breakthroughs in this area. We simply wish to illustrate the kind of problems that might be encountered at the conceptual level, and to emphasize that choosing a definition of government services which includes transfer payments over one which does not dramatically alter the perception of the size and shape of government services.

Denny to Auld:

There has been some work on the question of how many of government services should be included in final demand. I don't know if you've looked at whether the conventional national accounts practice of throwing all government services that cost money into final demand, rather than trying to reallocate some of them, makes any sense to you?

Auld to Denny:

It is an interesting question. Let me give you an example of the kind of problem we have encountered in trying to measure the government service sector. The Ministry of Natural Resources in Ontario has, over the last five or six years, transferred several of the internal functions of government into private firms – about 200 private firms in all. This has resulted, of course, in a decline in employment in the government sector of approximately 3,000-4,000 employees. Now the traditional way of measuring the government sector is to measure it in terms of the value of the inputs rather than the outputs, with the value of employment input multiplied by the average wage rate providing the measurement of government activity. In this instance, however, many of the government services have been contracted out to the private sector. This raises some very interesting questions about whether, when government services are contracted out, more is spent than if the services were done in-house. Total expenditure is the same, but the level of government employment is much lower. So we will be looking at the reasons for transferring government activity to the private sector, whether for political objectives, efficiency reasons or productivity objectives. One of the explanations Jim McRae and others have given for the growth of the service sector has been that as private sector businesses expand, it becomes optimal for them to contract out various services. It may be that this is what is occurring in government, that it has become so complex in terms of what it wants to do, and trying to serve so many people in so many ways, that the bureaucracy must start to contract out. So it may be that although the measurement has changed, with fewer services being provided by the government itself, the actual service level to the consumer has not changed.

Diewert to Stanbury:

I'm wondering how you plan to measure the output of the transportation system – i.e., stocks of roads and airports and so forth?

Stanbury to Diewert:

We can't make a contribution to the area of transportation except to point to what has been done in other studies, and what the fundamental problems and limitations of our study in this regard.

Legal Services

David Gill
The Fraser Institute
Vancouver, B.C.

In the 20 minutes or so accorded to me, I can do no more than discuss a few of my preliminary results relating to the market for legal services.

Dr. Grubel has asked us to focus on a number of subjects. I will concentrate on output, sales, employment and the question of vertical integration.

As you can imagine, reliable measures are difficult to construct. Here are my preliminary efforts.

Output

In Tables 1 and 2, I have constructed output and sales indices.

A word on the nature of lawyer output is necessary to understand the limitations of Table 1.

Ultimately, lawyer output consists of a heterogeneous mixture of legal services: wills and documents produced, conveyances effected, trials undertaken, and opinions, both oral and written, given. An accurate measure of output must take into account this heterogeneity. It must also take into account that all wills are not identical, nor trials, nor documents; moreover, it is evident that the quantity of service embodied within a particular legal document cannot be measured by physical characteristics alone, such as length or weight.

Instead, measurement of embodied output requires the weighing of numerous factors, including a judgment on the underlying complexity of a given legal task and the skill with which it was effected (since output of similar quality must be counted together).

If output is to be measured as effecting a given legal result, problems arise in defining that legal result. As laws change – and by that I mean both statutes and the common law – the same result requires the application of a different effort, different thinking.

Although more could be said about the difficulties in measuring output, I have been asked to abbreviate such discussion. Let me turn instead to the results in Table 1, which were calculated by deflating the estimated dollar value of sales by a proxy (the services price index) for the price of legal services. This is a method used by the U.S. Bureau of Labour Statistics in measuring service industry output (Mark 1983). For those legal transactions where the price is fixed, this yields a measure of quantity. Fees are likely to be fixed for the simplest kinds of transactions, such as straightforward residential conveyances. In those instances, output would also be relatively homogeneous. Where time value is used for billing purposes, the method will yield a measure of hours billed.

When examining the output indices, it is evident that output has significantly outpaced real growth in gross domestic product (GDP) since 1971. Whereas real GDP grew 75.3 per cent between 1971 and 1981, output grew by 120 per cent for the same period.

After the 1982 recession, it appears that the difference in growth rates drastically widened. While output grew 37.9 per cent between 1981 and 1985, real GDP only grew by 9.4 per cent, or at one fourth the rate of legal industry output. The disparity continued during 1986, when output grew 15.7 per cent over 1985, in contrast to a 3.1 per cent annual growth in real GDP.

However, as you'll see in a moment, there are reasons to believe that estimated sales for 1981, 1985 and 1986 are probably higher than actual sales; therefore, output growth is likely to be over-estimated for these years. Nevertheless, one might conservatively conclude that there is some evidence that legal services industry output is growing faster than real GDP, and that the process has not slowed during recent years. This conclusion would be in accord with observations that the service sector share of GDP is expanding.

Sales

In Table 2, an attempt has been made to estimate legal sales for several years. These are sales by private practice lawyers.

Sales for 1971 are drawn from a special Census survey undertaken during that year (Census 1971). Calculations for subsequent years are based on Canadian Bar Association survey data (Altman and Weil 1981; CBA-NLFS 1985, 1986) which yield average fee income per lawyer. Estimated sales for 1981 are simply the result of multiplying fee income per lawyer by the 1981 Census estimate of the number of private practising lawyers. Sales for 1985 and 1986 were calculated in a similar fashion, with the difference that the number of private practising lawyers for those years was estimated on the basis of membership information received from law societies across Canada.

Unfortunately, there is reason to believe that the CBA survey data overstate fee income per lawyer. The authors of the 1986 survey warn that "[in all likelihood] . . . law firms whose record of performance is relatively poor . . . [will be] less likely to participate in the Survey . . . " (CBA-NLFS 1986, pp.1-2). Therefore, estimated sales for years subsequent to 1971 are likely to be upwardly biased. With this caveat in mind, the results in Table 2 can be reviewed.

When GDP and legal sales are compared, it is clear that sales growth has outpaced growth in GDP.

Between 1971 and 1981, nominal sales grew by 394 per cent while nominal GDP grew by 330 per cent. The difference in growth rates was more pronounced during recent periods. Nominal sales grew 79 per cent for the period 1981-1985 and 22 per cent for 1985-1986, while nominal GDP only grew 34 per cent and 6 per cent respectively for the same periods.

Growth in the legal services industry is most evident when sales are examined as a percentage of GDP. For the 15 years between 1971 and 1986, the share of GDP devoted to legal services has nearly doubled, climbing from .66 per cent to 1.2 per cent. Much of this increase has occurred during the last five years.

According to the evidence, therefore, legal services is a growth industry, one whose growth has accelerated during recent years. Some notion of the origins of this growth can be derived by breaking down the components of expenditure on legal services.

Households

For example, in Table 3, estimates of the dollar value of sales to households were constructed for those years in which Statistics Canada surveyed households and determined the average amount expended per family on legal services. This average was simply multiplied by the estimated number of households in Canada to yield total household expenditures on legal services, except for 1971 and 1981. In those years, no surveys were undertaken. However, to enable comparison with total sales figures, estimates of household expenditures for those years were developed (by using 1972 and 1982 average family expenditure and deflating by the services component of the consumer price index. In this way, household sector sales can be described as a percentage of total sales.)

The results of such estimation is set out in Table 3. There, it can be clearly seen that the household sector has demonstrated lower growth rates than overall sales. In fact, between 1971 and 1978, there was zero real growth in the value of estimated sales (-0.2 per cent) to the household sector and such sales fell from .13 per cent of GDP to .09 per cent of GDP during that period. Between 1971 and 1981, the real value of household sector sales grew by 21.6 per cent, while real GDP grew by three times as much (75.3 per cent) and the real value of overall sales grew by nearly five times as much (101.8 per cent).

It is therefore not surprising that the percentage of total sales due to household expenditures on legal services, declined between 1971 and 1981, from approximately 19 per cent to 12 per cent.

From the available data, it is clear that the household sector is not an engine of growth in the market for legal services. High growth rates displayed by overall sales must therefore be the consequence of an expanding business in supplying legal services to industry. This is especially the case between 1971 and 1978, when the household sector experienced zero real growth.

Employment

Now, I want to make a brief remark with respect to employment in the industry. In this regard, I have circulated three graphs which focus on the number of lawyers and notaries, and which rely primarily upon Revenue and Census Canada data. Of course, there is more to the story of employment than this—but to give you an idea of what's happening, I include these charts.

Turning to Graph 1, entitled Lawyers and Notaries 1931-1981, it is clearly evident that the number of lawyers increased dramatically between 1971 and 1981. In fact, numbers nearly doubled during that 10-year period. This is the largest increase in any 10-year period since 1931.

In Graph 2, which is subtitled, Percentage of Labour Force, the same striking increase is documented: lawyers, as a percentage of the total Canadian labour force, are at a 50-year peak—a peak that is considerably higher than any achieved during that same 50-year period. One can also see that in 1951, there were relatively few lawyers in comparison to the size of the total labour force.

In Graph 3, we can see what is happening to the numbers of self-employed lawyers on an annual basis. Again, growth in numbers was rapid between 1972 and 1984; and even more rapid between 1982 and 1984.

Therefore, sales, output and employment in the legal profession have recently manifested rapid growth.

Vertical Integration

Another matter which we've been asked to examine is vertical integration. There are two aspects to this matter. We can look at a private practice law firm and ask whether the functions necessary to produce legal services are being performed internally or externally. In the case of legal services, it is also sensible to ask whether corporate consumers are choosing to purchase legal services externally or to produce them internally. In this brief overview, I will concentrate on this latter question.

As we've seen, the legal services industry has been growing. Does this mean that there are relatively more opportunities for specialization external to a consumer-producer? In other words, does this mean that the use of in-house counsel will decline, relative to the use of the private law firm?

Statistical information on these questions is scarce and somewhat inconclusive. Table 4 concentrates on the situation in British Columbia and Table 5 relates to Ontario. Together, these provinces account for 59 per cent of all Canadian sales by value, according to a 1971 Census survey.

Consider Table 4. The first column of numbers sets out private practice lawyers as a percentage of all employed lawyers in British Columbia. It runs from 1964 to 1986, with an eight-year gap between 1974 and 1982—due to data limitations. It is evident that the percentage of private practice lawyers does not show a pronounced trend and ranges from a high of 87.5 per cent to 1973 to a low of 82.5 per cent in 1982.

On the other hand, the ratio of private practice to in-house counsel does reveal a trend: the ratio rises over time. There are significantly more private practice lawyers in later years—relative to the number of in-house counsel. The ratio is lowest in 1969 (13.52) and highest in 1985.

Looking to the Ontario data—displayed in Table 5—a somewhat different picture emerges. To be fair, it should be stated that the Ontario figures are not as complete or accurate as those available for British Columbia. In Table 5, the first column shows a slight decrease in the percentage of private practising lawyers over the last five years. The second column shows that the ratio of private practising to in-house counsel has also decreased, although by a modest amount.

There is the evidence. Further investigation is necessary to determine whether Tables 4 and 5 are measuring regional differences.

Summary

To sum up, I can say that the legal services industry has demonstrated rapid growth in employment, output and sales. This rapid growth does not seem the result of household demand – rather it is the consequence of growing sales to business. There is also some evidence that in British Columbia, the production of legal services is becoming more concentrated in law firms – as opposed to corporate producers.

Table 1
Output Indices for Selected Years
(percentages)

Output	GDP	GDP (Real)
1971 : 100.0	100.0	100.0
1981 : 220.0 (120.0)	429.6 (329.6)	175.3 (75.3)
1985 : 303.4 (37.9)	574.9 (33.8)	191.8 (9.4)
1986 : 350.9 (15.7)	609.7 (61.1)	197.8 (3.1)

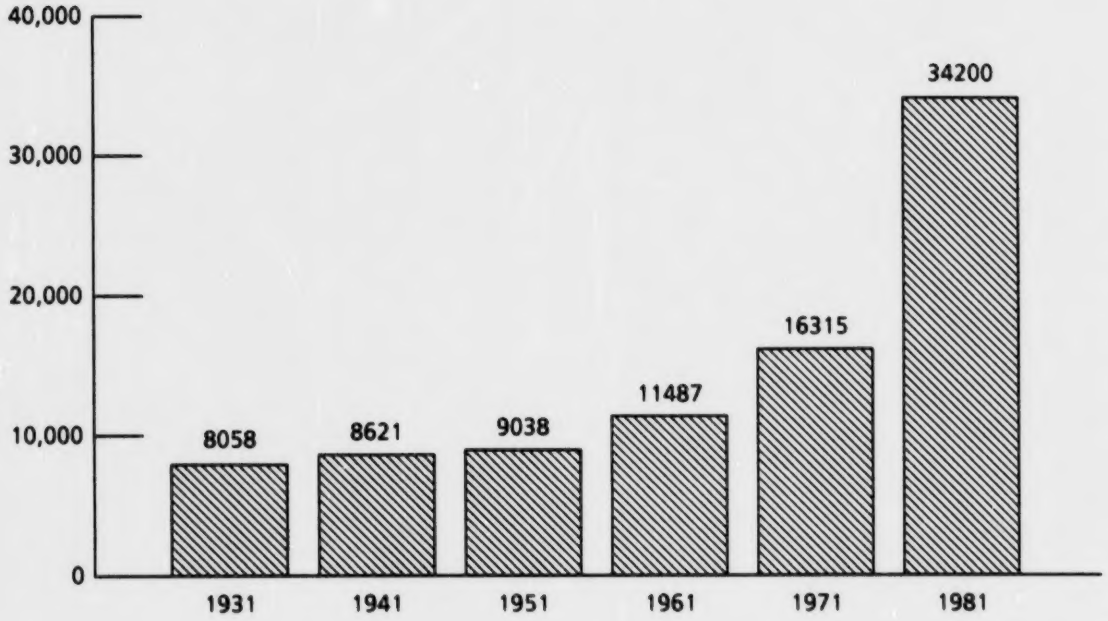
Table 2
Estimated Sales for Selected Years
(percentages)

$ millions	$ 1971	% GDP
1971 : 546.2	546.2	.659
1981 : 2,700 (394.3)	1,102.0 (101.8)	.758
1985 : 4,830 (78.9)	1,610.6 (46.2)	1.0
1986 : 5,870 (21.5)	1,904.5 (18.3)	1.2

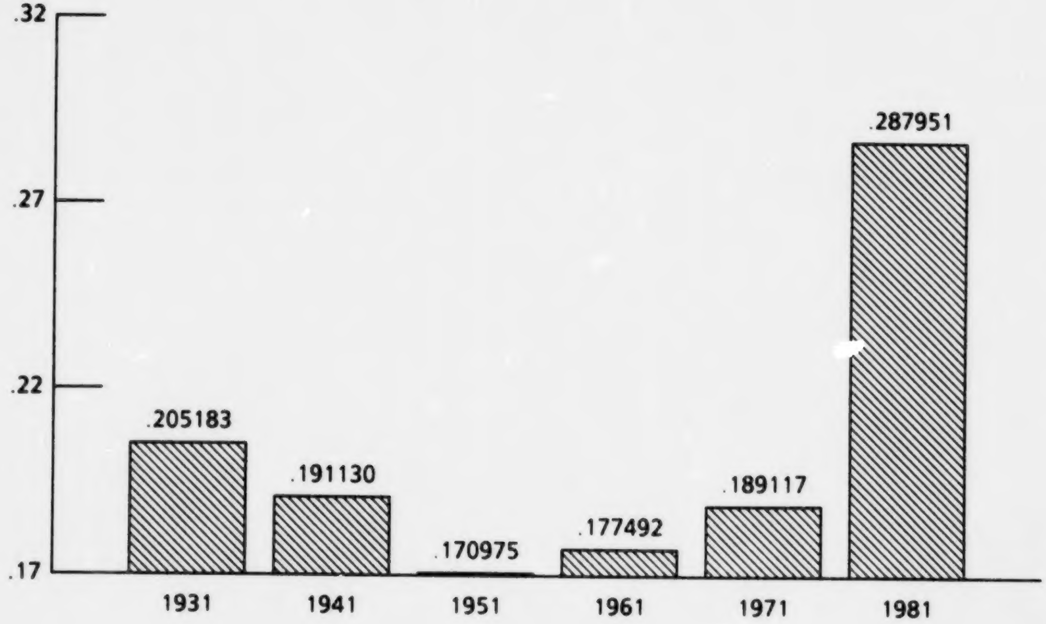
Table 3
Estimates of Household Expenditures on Legal Services

$ millions	$ 1971	Growth(%)	%sales	%GDP
1971 : 104.8	104.8		19.2	.126
1981 : 190.7	104.6	-0.2		.091
1985 : 312.2	124.2	21.8	11.6	.088
1986 : 358.7	134.4	5.5		.096

Graph 1
Lawyers and Notaries 1931-1981 Census



Graph 2
Lawyers and Notaries 1931-1981
Percentage of Labour Force



Graph 3
Self-Employed Lawyers and Notaries
Source: Revenue Canada, Taxation Statistics

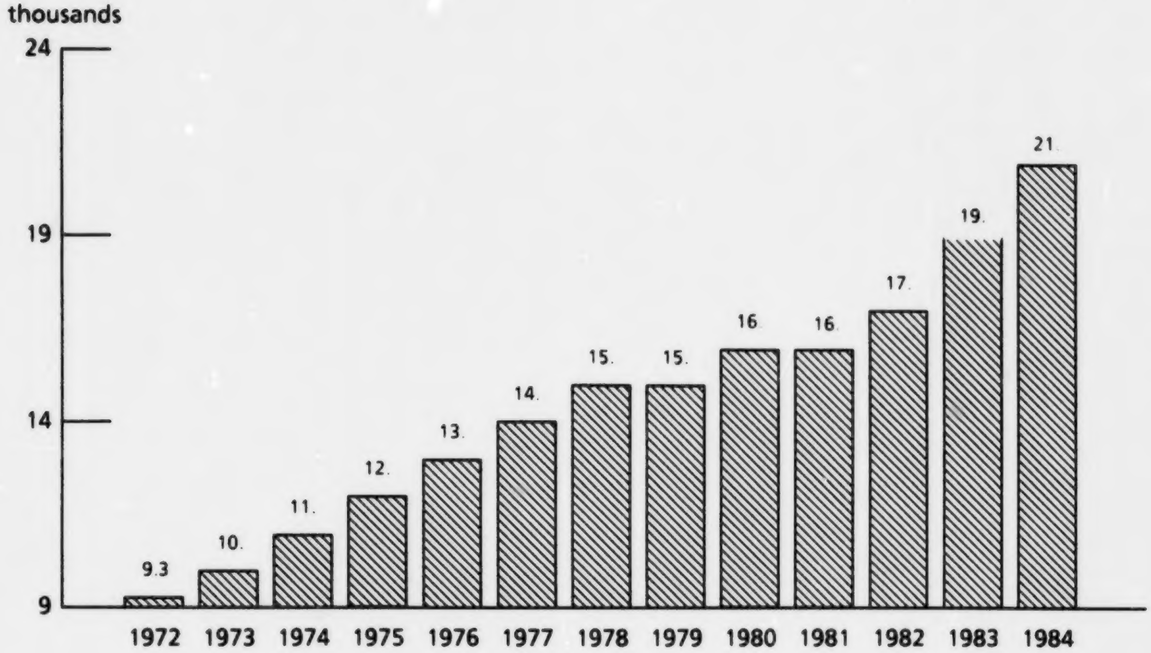


Table 4
Private Practising Lawyers (B.C.) and Lawyer Labour Force

	pp as % of employed lawyers	pp/in-house
1964	83.9	13.90
1965	84.0	13.97
1966	83.7	13.67
1967	83.9	14.56
1968	84.0	13.65
1969	83.9	13.52
1970	85.2	14.89
1971	86.8	16.96
1972	87.0	16.59
1973	87.5	17.80
1974	86.9	17.00
1982	82.5	19.17
1983	82.9	19.31
1984	84.1	19.36
1985	84.8	19.93
1986	84.5	19.88

Source: B.C. Law Society: Legal Resources Task Force (B.C. Branch CBA) 1976: and calculations

Table 5
Private Practising Lawyers (Ontario) and Lawyer Labour Force

	pp as % of employed lawyers	pp/in-house
1982	80.0	8.29
1983	79.7	8.22
1984	79.1	7.71
1985	78.9	7.63
1986	78.7	7.46

Source: **Upper Canada Law Society and calculations. Note that in-house could not be directly estimated and includes lawyers in good standing who are engaged in business (not advising).**

Discussion:

Legal Services

De Melto to Gill

I have two questions. First, I am curious to know whether the growth of this industry is socially desirable? Second, I wonder to what extent the government is causing this growth?

Gill to De Melto:

With regard to the issue of the driving force behind the expansion of this industry, I can only say, at this early stage, that it does not seem to be household demands, which tend to be legal services of a very specific kind such as residential conveyances, wills, and family law services. Whether it's a consequence of an increasingly regulated environment, or because laws are changing more quickly, or whether it is the result of supply creating the demand, I can't say.

Dobell (Comment):

I have a comment on methodology, specifically with regard to the problem of finding a reliable output measure. The standard approach is to use some price or cost index to deflate revenue, sales or value measures to get a measure of volume. Although the method hasn't yet been extended to calculate total factor productivity for lawyers, the problem of interpreting these measures is obviously a general one.

In your presentation, you alluded to increasing output in the legal services sector, this conclusion being based on the observation that the value of the output, deflated by some suitably chosen proxy for price index, is rising very quickly. There are performance indicators—case loads, for example—which can be used as alternatives to that kind of output measure. Thus, it occurred to me, if one were comparing the output of the private practice lawyers with the output of public sector lawyers whose revenues are fixed in some ways other than by regulations of the Bar Association, we might get into an interesting situation regarding productivity measures. For public sector lawyers, we may have the situation that more cases are being handled, but in comparison to private sector lawyers, revenue is rising a lot less quickly. When productivity calculations are made, the issue of publicly delivered services versus privately delivered services would be interpreted incorrectly on the basis of this kind of information.

Architects and Engineers — An Overview

David L. Hammes
The Fraser Institute
Vancouver, B.C.

The Industries

A. *Consulting Engineers*

The consulting engineering industry provides a wide variety of services in the planning, design, procurement, construction and management of all types of structures and processes. These services are provided by firms ranging in size from a single practitioner to over 4,000 employees with a tremendous variety in clientele, fields of engineering and scope. The list of engineering services is necessarily brief and imprecise as the types of structures and processes are many.

A more detailed breakdown of the sectors in which consulting engineers provide services includes the municipal, buildings, petroleum and natural gas, power, mining and metallurgy, plant process design, transportation, forestry, agriculture and fisheries, dams and irrigation, air and sea ports, telecommunications and miscellaneous services ranging from air and noise pollution control to soil mechanics.

Within these sectors more than 100 sub-sectors are identifiable. For example, services provided to the municipal sector may include the design and management of water supplies, sewage and waste disposal, roads and streets, traffic engineering and urban and regional planning. It is safe to say that from the time one rises and turns the tap for a morning shower until the light is snapped off before going to bed at night, every person who is a part of our industrialized economy benefits in some way from the services of consulting engineers.

B. Architects

The architecture industry provides a smaller menu of services traditionally restricted to the planning, design, evaluation and supervision of the construction, enlargement or alteration of buildings. As shown above even small menus may be quite long. Some subsectors of this building sector include the acoustics, communications, heating, ventilating and air conditioning, illumination and structural elements which must be considered in the design or alteration of buildings.

In the building sector, architects and consulting engineers provide many of the same services and compete vigorously for clients. In that sector the services of architects and consulting engineers are undoubtedly substitutable to a great degree.[1] Therefore, the development and future prospects of the two industries in this particular sector are closely linked.

However, consulting engineering is not limited to the building sector alone. As a consequence, the history and patterns that emerge differ vastly when the two industries are compared on an aggregate basis, side by side, as will be seen in this note.

Consulting Engineers and Architects in the Canadian Labour Force

A. Employment and Growth Rates

Census data provide a first look at the relative sizes of these two industries in the labour market. The absolute number of professional engineers in Canada rose from about 18,500 in 1941 to roughly 135,000 in 1981. In the decade 1971 to 1981 the number of engineers grew from 76,000 to 135,000, yielding an average annual growth rate of 5.7 per cent per year. The labour force as a whole grew at an annual rate of 3.3 per cent over the same decade.[2]

The number of architects rose from about 1,200 in 1941 to just over 7,100 in 1981. The annual average rate of growth over the 1971-1981 decade was also 5.7 per cent for this occupational group.

Figure 1.1 shows the growth in the total labour force and growth in the occupational groups of engineers and architects using 1941 as the base.[3] While the relative size of engineers in the labour force swamps that of architects, the growth rates for the two groups in the decades 1941 to 1961 and 1971 to 1981 have been virtually identical and at rates greater than the labour force as a whole.

Figure 1.1 shows that the decade of the 1960s was one of far greater significance for the growth of engineers relative to architects than any of the other four decades shown. During the 1960s, the number of engineers grew at an average annual rate of 5.8 per cent, while the number of architects grew at an average annual rate of 3.2 per cent, which was slightly higher than the labour force average annual growth rate of 3.1 per cent per year.

In an effort to find the cause(s) for this growth disparity in the 1960s, I looked at the total value of construction in real terms broken down into its two broad components building and engineering construction. As Figure 1.2 shows, growth in these two components was roughly identical over the decade of the 1960s.

I then broke the building component down further into its constituent components, residential, institutional and industrial, commercial and other building.[4] As is apparent in Figure 1.3, the institutional and industrial component grew in importance relative to the other components over the last two years of the 1950s and on into the 1960s until about 1966. It may be possible that engineers do a greater than proportionate amount of the design and oversee more of the construction associated with institutional and industrial building than do architects. If this is the case, the increasing importance of institutional and industrial building during the 1960s would explain the increase in growth of engineers relative to architects.

Finally, Figure 1.4 shows the rapid rise in the variance of real institutional and industrial building – 1960 to 1970 – relative to its mean value over the longer period 1952-1986. Note that institutional and industrial building rose nearly three standard deviations from 1961 to 1965.

B. *Characteristics of Employees*

1. Sex

The fields of engineering and architecture have been, and remain, overwhelmingly populated by men. The census of 1941 shows that, in Canada, there were no female engineers and only 16 female architects. The proportion of the 142,000 engineers and architects that were female in 1981 was 6 per cent, up from 1.65 per cent in 1971.[5]

2. Occupation by Industry

To focus more clearly on the consulting engineering industry, census data allows the calculation of the proportion of total employment of the occupational group, engineers and architects, employed in offices of engineers for the year 1981.[6] Offices of engineers and offices of architects more closely approximate the industries of interest than do the broader occupational classifications. In 1981, approximately 20 per cent, or about 27,500 of the total engineers and architects, worked within offices of engineers.[7] A further breakdown shows that about one third of all civil engineers and 25 per cent of all mechanical engineers are employed in the offices of engineers.

The ratios for men and women appear to differ significantly in the total for engineers. While slightly more than 20 per cent of male engineers and architects are employed in offices of engineers, only about 15 per cent of female engineers and architects are similarly employed.

3. Age

Figure 1.5, which shows the age profiles of the two sexes in engineering and architecture for 1981, provides an explanation for the difference noted above. Highlighting the recent nature of female participation in these fields, Figure 1.5 shows the skewed distribution towards youth in the population of women in the engineering and architectural fields.

As of 1981, fully 52 per cent of the women and only 24 per cent of the men in these two occupations were 29 years of age or younger. At the other end of the distribution, 30 per cent of men and about 11 per cent of women were 45 years of age or older.[8] Being younger on average, women are less likely to have acquired the experience working in the field necessary to enter the consulting profession. On average, women in engineering and architecture are younger than women in the labour force as a whole. For men, the opposite is true.

4. Education

In terms of educational attainment, slightly more than 60 per cent of professional engineers and about 85 per cent of architects in 1981 possessed a university degree. This result was invariant across the sexes. These figures are far higher than the average of 30.8 per cent for the Community, Business and Personal Service Industry as a whole.

5. Type of Worker

Classified by type of worker, census data for 1981 show that roughly 97.5 per cent of engineers are paid workers with the remaining 2.5 per cent self-employed. The corresponding figures for architects are 72 per cent paid workers and 28 per cent self-employed. These figures do not appear to vary greatly across the sexes.

D. Main Consumers of the Services

1. Fee Income

Given the wide variety and scope of engineering services it is no surprise that both the private sector and all levels of the public sector are clients for these services. For consulting engineers, total fee income, in real terms, rose from approximately two thirds of a billion dollars in 1974 to approximately $900 million in 1982 and then fell to an estimated $750 million in 1984.[9] Real fee income as a percentage of real gross national product was about one half of 1 per cent in 1984, down from six tenths of 1 per cent a decade earlier.

For the decade 1974-1984 the average annual growth rate in real fee income was 1.2 per cent. The growth in Canadian real gross national product, for that decade, was 2.3 per cent per year.

For architectural firms, real fee incomes have declined about 20 per cent from 1981 to 1984.[10] In 1984, real fee income was estimated to be $160 million, down from $200 million in 1981. Over the decade 1974 to 1984, the average annual growth rate for real fee income in the architecture industry was approximately *minus* 2.2 per cent per year. Most of that decline was experienced in the period 1982-1984. What is most apparent, for the performance in both of these industries, is the close relationship between economic activity and investment in building construction in particular. In the chapters to follow I will look more closely at these relationships.

2. Domestic Clients

In terms of fee income, survey data and estimates for the years 1978, 1980, 1982 and 1984 show that roughly half of the fee income derived by consulting engineers is from the private sector and half from the public sector.[11] This result is significantly different only in 1982 when approximately 67 per cent of fee income was generated from private sector clients and the remainder from public sector clients. Provincial governments have accounted for about 40 per cent of all public sector fee income in each of the survey years, with the federal government share ranging between 15 per cent and 20 per cent. An increase in the proportion of fee income from foreign governments and a decrease from municipal governments characterizes the other public sector clients.

In architecture, in both survey years 1977 and 1982, about 58 per cent of gross fees came from clients in the private sector with the remaining 42 per cent coming from public sector clients. In 1984, the estimate was that approximately half of fee income derived from each of the two sectors.[12]

3. Foreign Clients

The share of total fee income generated by foreign clients, private and public, has fluctuated in the consulting engineering industry over the period 1974 to 1982. From 10.6 per cent of total fee income in 1974, foreign clients' business rose to 15.8 per cent of consulting engineers' fee income in 1978 and dropped to 11.2 per cent in 1982.

Of the foreign business, roughly 50 per cent was generated from private sector clients and 50 per cent from governments – foreign and Canadian – in both 1974 and 1982. In 1978, the government sector accounted for 60 per cent of foreign fees generated with private sources generating the remainder.

The architecture industry is even less reliant upon foreign projects for fee income. In 1977, 2 per cent of total fee income was derived from foreign projects. This figure rose to 2.5 per cent in 1982. Private sources accounted for 21 per cent of this fee income in 1977 and 49 per cent in 1982.[13]

Notes

1. The delineation between the practice of architecture and engineering is not always clear cut. Some professional friction has developed as a result.

2. This and all rates that follow, unless otherwise specified, are compounded average annual growth rates.

3. Engineers and architects are the Standard Occupational Classification (SOC) (1970) 214/215, with architects being the four-digit SOC (1970) 2141.

   Clearly more is captured here than intended. Not all engineers are consulting engineers – hence in the consulting engineering industry – nor are all architects working in the offices of architects, hence in the architecture industry. As a consequence, the absolute size of engineers and architects in the labour force as discussed in the text overstates the number of consulting engineers and architects – in the architecture industry – in the national labour market. However, the rate of change of the two groups relative to the national labour market – as shown in Figure 1.1 – may reflect conditions in the narrower industries of interest.

   Figures from other sources will be presented below in an effort to more closely approximate the actual numbers of consulting engineers and architects in the Canadian labour market.

4. Engineering construction design is probably not engaged in by architects; consequently looking to it as a source of the differential growth rates over this period would be fruitless.

   Institutional building and industrial building were aggregated by the author.

5. 1941 Census of Canada, Vol. VII, and 1981 Census of Canada, Cat. 92-920.

6. Offices of Engineers are classified as Standard Industrial Classification (SIC) (1970) 864. The SIC designation for Offices of Architects is 863. The following material is derived from Census publication 92-923, Vol. 1.

7. For architecture, approximately 80% of all architects are employed in the offices of architects. About 90 per cent of female architects are employed in architects' offices. There are significant differences between the two occupational groups.

8. In 1981, the average age for male architects was 39.7 years and for female architects was 31.8 years. For engineers, males: 38.9 years, and females: 32.0 years.

9. Barnard 1985a.

10. Statistics Canada, Cat. 63-537, 1985; and Barnard 1985b.

11. Statistics Canada, catalogues 63-528 Occasional, 1974; 63-537, 1980; 63-537 Occasional, 1985; and Barnard 1985a.

12. Statistics Canada, Cat. 63-534 Occasional, 1979, and 63-537 Occasional, 1985; Barnard 1985b.

13. Statistics Canada, cat. 63-534, Occasional, 1979; and 63-537, Occasional, 1985.

References

Barnard, Peter and Associates. 1985a. *Coming to Grips with Change – A Report on the Canadian Consulting Engineering Industry*, prepared for the Department of Regional and Industrial Expansion.

Barnard, Peter and Associates. 1985b. *Managing in Difficult Times – A Report on the Architectural Profession in Canada*, prepared for the Department of Regional and Industrial Expansion.

Dominion Bureau of Statistics. 1946. Eight Census of Canada, *Gainfully Occupied by Occupations, Industries etc.*, Volume VII.

Statistics Canada. 1974. *Consulting Engineering Services*, Cat. 63-528 Occasional.

Statistics Canada. 1979. *Offices of Architects*, Cat. 63-534 Occasional.

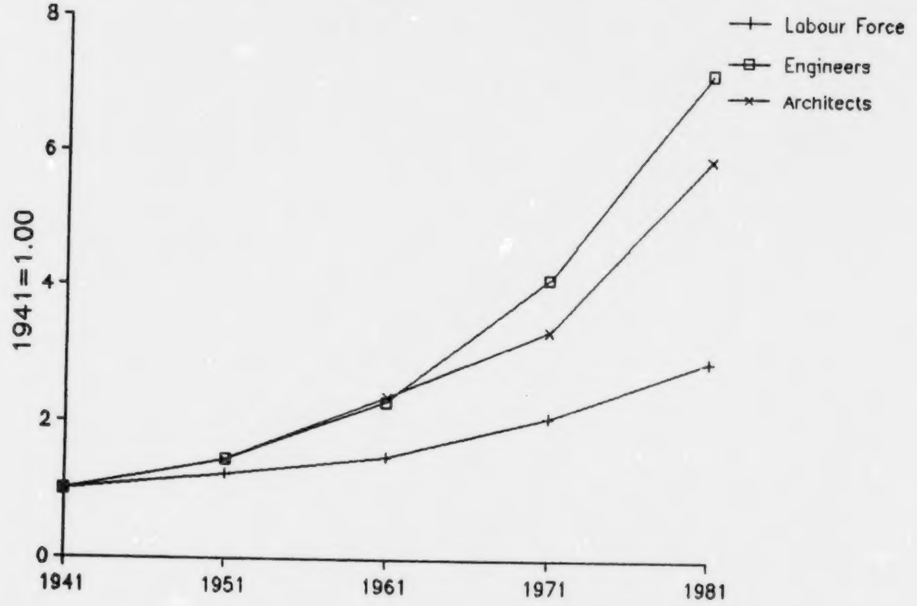
Statistics Canada. 1980. *Engineering and Scientific Services*, Cat. 63-537 Occasional.

Statistics Canada. 1985. *Architectural, Engineering and Scientific Services*, Cat. 63-537 Occasional.

Statistics Canada. 1984. *1981 Census of Canada*, Cat. 92-920.

Statistics Canada. 1984. *1981 Census of Canada*, Cat. 92-923, Vol. 1.

Figure 1.1
Occupational Groups, 1941-1981
Relative Rates of Growth, 1941 = 1.00



Source: Census of Canada, 1941, 1951, 1961, 1981.

Figure 1.2

Real Total Value of Construction Work Purchased, Canada 1952-1983
Stats. Can. Cats. 64-201, 13-568, 1971 = 1.00

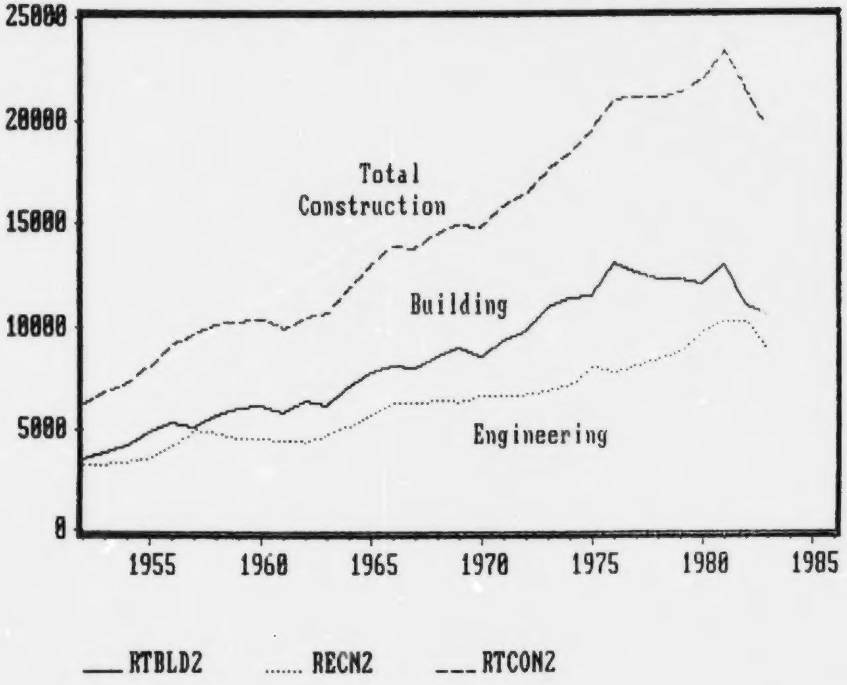


Figure 1.3
Proportion of Total Building Construction Work Purchased by Type of Building, Canada 1952-1986
Stats. Can. 64-201

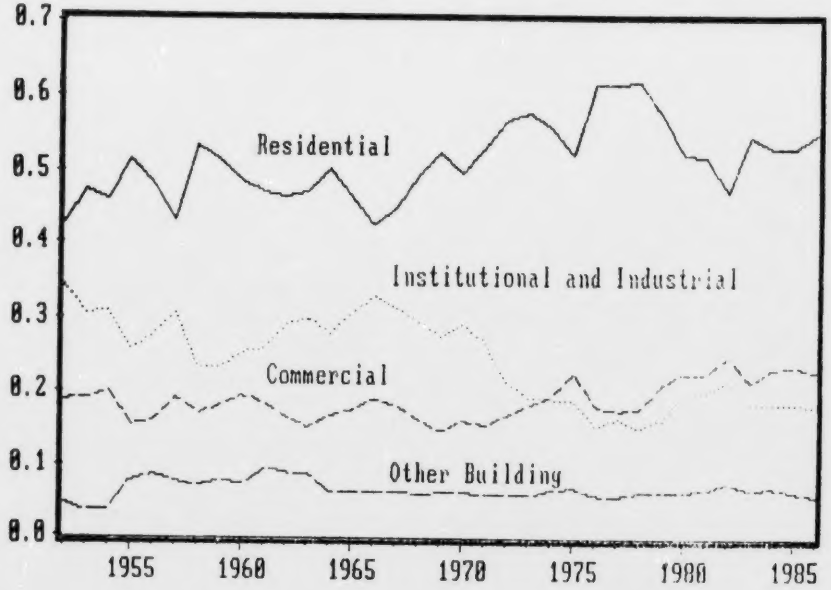


Figure 1.4
Normalized Values of Total Building Construction Purchased by Types of Construction, Canada 1952-1986
Stats. Canada Cat. 64-201

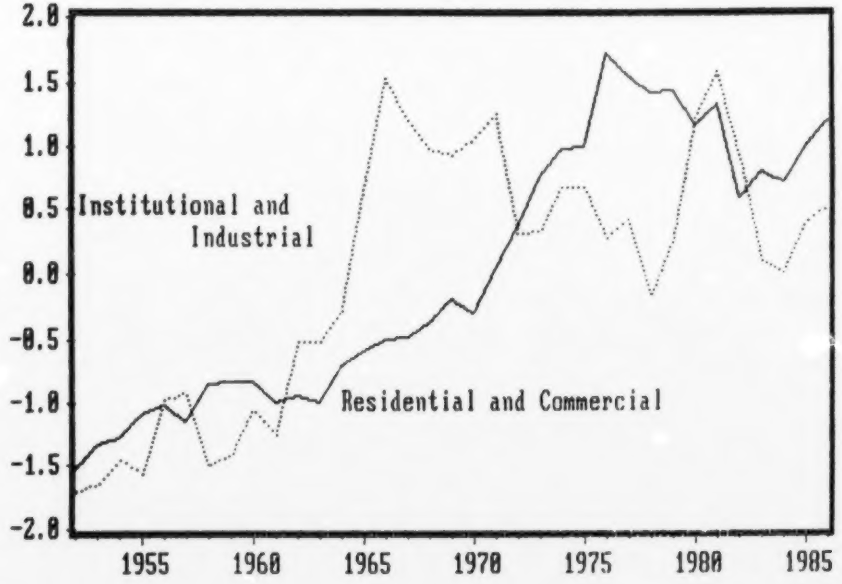
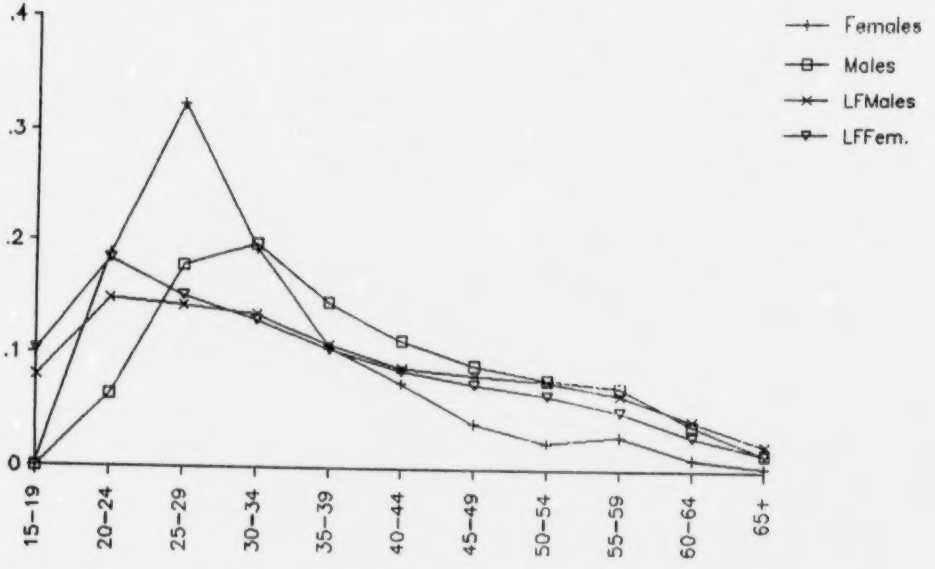


Figure 1.5
Age Profiles, SOC 214/215
Relative Frequency, Canada 1981



Source: 1981 Census of Canada, Cat. 92-917.

Discussion:

Consulting Engineers and Architects

De Melto to Hammes:

I have some general comments I'd like to make about consulting engineering. It strikes me that it has a number of interesting characteristics, and that it would be worth examining in more depth. What makes it interesting is that it is human capital-intensive, it's an information industry, and it has a flexible, expanding structure. The industry seems to be characterized by a large number of small firms doing rather pedestrian work, and a small number of large, sophisticated firms doing very interesting work, mostly located in Quebec, which is an interesting fact in itself.

The contracting out of government services from the Quebec government to these firms has been a classic success story of government transfer.

I also think the potential is there (in a study of the consulting engineering industry) for a classic study of the way services are sold abroad, and how the sale of these services are calculated.

Another interesting case, it seems to me, is the spinoff generated by consulting engineers. We heard earlier that 50 per cent of U.S. goods exports were the result of earlier service contracts, and it would be interesting to examine the question of whether this is the kind of industry that would generate such spillover effects.

I wonder also why it is that in Canada we tend to have pure consulting firms, whereas in the United States consulting engineers tend to be part of a larger enterprise which also provides the good itself as well as the service.

That whole set of issues is to me very fascinating and I encourage you to expand your study to include them.

Hammes to De Melto:

What we have tried to do in the presentation is to give a snapshot of the industry, rather than to emphasize regional and other distinctions.

I agree that Quebec is the classic example of why the consulting engineering industry, and in particular Lavelin, SNC, and Monenco, have done so well. I've heard that Public Works Canada plans to contract out much more of its work to consulting engineering firms, to the extent that, by 1990, the industry hopes to be doing 85-90 per cent of the work done by the Public Works Canada, as opposed to approximately 40 per cent in 1980.

Employment Agencies, Personnel Suppliers, and Security and Investigation Services

Dennis R. Maki
Department of Economics
Simon Fraser University
Burnaby, B.C.

Introduction

This report is concerned with two three-digit Standard Industrial Classification (SIC) industries, SIC 851 and SIC 855 (1971 SIC classification). The former includes employment agencies, which match job seekers and job openings for a fee, generally charged to the employer; and personnel suppliers, who place their own employees in clients' firms on a temporary basis. SIC 855, security and investigation services, includes firms providing detective and investigation services, patrolling, guard, armoured car and burglar alarm services.

The main focus of the report is calculation of growth rates in these industries, particularly in recent years, and attempting to isolate the causes of this growth.

Growth Rates

A major difficulty encountered has been the lack of data, particularly data relating to output. This has meant that growth calculations must be based on establishment counts or employment-related measures. Using Statistics Canada's Business Register information (which is intended for use as a survey frame, not for analytical purposes), the number of establishments in SIC 851 grew by 68 per cent from July 1980 to December 1986; the number of establishments in SIC 855 grew by 65 per cent over the same period. Average establishment size increased from 17 to 29 in SIC 851 over the period, while in SIC 855 it declined from 35 to 29. These numbers are based on data with several deficiencies, not elaborated here, but represent the only information in hand which covers a very recent period.

Several growth calculations can be made using employment counts from the 1971 and 1981 population censuses. On this basis, SIC 851 grew by 113 per cent, SIC 855 by 97 per cent, all services to business management industries (SBM) by 135 per cent, and all industries in the aggregate by 40 per cent. However, growth rates uncorrected for differences in part-time and part-year work are very unreliable. For example, although females in SIC 851 in 1980 had lower average annual hours of work than females in SIC 855 had in 1970, there was much more substantial growth in average annual hours for females in SIC 851 than in SIC 855 from 1970 to 1980. Using average annual hours estimates to correct the growth rates, SIC 851 grew by 173 per cent, SIC 855 by 99 per cent, SBM by 141 per cent, and all industries by only 17 per cent.

A third source of data is the Longitudinal Employment Analysis Program (LEAP) at Statistics Canada. These data indicate that over the six-year period 1978-1984, Full-Year Equivalent (FYE) Person-Years of employment in SIC 851 grew by 20 per cent, in SIC 855 by 11 per cent, and in all industries by 10 per cent. Extrapolating the 10 per cent growth for all industries over six years to 10 years yields 17 per cent, matching the estimate from census data in the previous paragraph. However, extrapolating the 20 per cent growth over six years for SIC 851 to 10 years yields only 34 per cent, far below the 173 per cent growth calculation based on census data. A similar difference is noted for SIC 855. The reasons underlying these large differences in growth rates are not known.

The Dynamics of Growth

Some other information of potential interest is contained in the LEAP data. For both industries considered, there has been a shift in the size distribution of firms in the direction of smaller average size. In SIC 851, firms with less than 100 FYE person-years have increased their share of total employment at the expense of larger firms. In SIC 855, firms with less than 20 employees have increased their share of total employment at the expense of larger firms. One can also get some impression of growth dynamics, since the data indicate that a large proportion of 1984 employment in SIC 851 was found in firms which did not exist in 1978 ("new" firms), while in SIC 855, "new" firms were not as important, and most of 1984 employment was found in firms in existence in 1978 which had expanded employment over the six-year period. Death rates for firms, defined as the percentage of firms in existence in 1978 which were no longer in existence in 1984, are also available by firm size category. Not surprisingly, death rates decline monotonically with firm size. Death rates are higher for SIC 851 than for SIC 855, and for SIC 855 than for all industries. The highest death rate, for firms with less than five employees in SIC 851, was over 60 per cent.

The literature relating to SIC 851 suggests that part of the rapid recent growth of Personnel Suppliers in the United States is due to expansion into new areas outside the traditional clerical occupations. The data show some evidence of this for Canada (clerical occupations declined and occupations in medicine and health increased from 1971 to 1981) but the changes are small, and clerical occupations still accounted for more than half of total employment in the industry in 1981. There no doubt were some shifts within categories, e.g., from typists to word processor operators, but such shifts were not apparent at the four-digit Standard Occupational Classification (SOC) level at which the source data were available.

Over 70 per cent of employment in SIC 855 was in SOC 6115, Guards and Watchmen (1971) or Guards and Related Security Occupations (1981). It is assumed that SOC 6115 is the same in both years, despite the change in title. As in the case of clerical occupations in SIC 851, the four-digit SOC code 6115 is too broad to allow isolation of potentially interesting trends, e.g., the increasing use of guard dogs and electronic surveillance by security guards. Since such a high proportion of total employment in SIC 855 is in SOC 6115, at several points in the report information relating to this occupation is presented as representative of the industry. Since only a minority of persons in SOC 6115 work in SIC 855, some strong assumptions are required.

Productivity

Given the lack of output data (it was available only for 1971) calculation of output per man-hour was impossible, so an attempt was made to look at wages as a proxy for productivity. Wages are available by occupation, but not industry. For males in SOC 6115 (predominantly a male occupation) full-time, full-year earnings were about 75 per cent of equivalent earnings in all industries in both 1971 and 1981. Hence, it appears productivity growth in SIC 855 has roughly matched that in the economy as a whole.

The other aspect of productivity investigated was to attempt to calculate rates of return using accounting statement information for firms in the industries of interest. Data were not obtained for any Canadian firms, and much of the data for U.S. parent companies of

Canadian subsidiaries is not of much use if the parent is a conglomerate (e.g., Burns Security, which operates in Canada, is part of the Borg-Warner Corporation, a very large conglomerate). Finally, information on three U.S. firms was gathered. Kelly Services, Inc. appears to be almost entirely specialized in the personnel supplier field, and had 30 offices in Canada (out of 650 around the world) in 1985. The Wackenhut Corporation appears to specialize exclusively in the security field (though it is broadly diversified within that field), and had 10 offices in Canada in 1985. General Employment Enterprises specializes in the employment agency and personnel recruitment field, and had two offices in Canada in 1985, out of 36 in North America. Profits as a percentage of sales, capital stock and equity were calculated for these firms and for SBM and all industries in Canada (data from Statistics Canada, 61-207). It is emphasized that the figures for the three corporations relate to their worldwide operations.

Profit as a percentage of sales did not vary much among the resulting five observations (generally around 3 or 4 per cent), and profit as a percentage of fixed assets is very high for Kelly Services – over 250 per cent (they generally operate from rented office space and have very few fixed assets), over 90 per cent for Wackenhut, around 60 per cent for General Employment Enterprises, and slightly over 40 per cent for all Canadian SBM industries. Profit as a percentage of equity is about the same for Wackenhut and General Employment Enterprises as for Canadian SBM corporations as a whole (around 30 per cent). Kelly Services has a higher profit/equity ratio than the other observations considered (over 40 per cent).

Econometric Models

Time and space pressures prevent detailed discussion, but I would like to note in broad outline some tests of hypotheses which were conducted. A three-equation model, with police/population ratios, property crime rates and employment in SIC 855 as endogenous variables, was estimated using cross-section data for 1981. The results, subject to several caveats and ignoring some anomalies, indicate that personnel in SIC 855 and the public police are not substitutes, and may be complements; and that high proportions of SIC 855 personnel are associated with low rates of property crime. This model was re-estimated considering private security personnel outside of SIC 855 (using SOC 6115 to define total security personnel), with the results that private security personnel outside of SIC 855 were not correlated with either the public police or property crime rates, and the correlations observed for personnel in SIC 855 were unchanged despite the introduction of "other" private security personnel.

Single equation econometric models were used to examine the effects on SIC 851 of (1) growth in the proportion of females in the labour force, (2) growth in total employment in the locality, and (3) the state of the labour market as proxied by unemployment rates. The results indicate that growth in the proportion of females matters only when measured at the industry specific level, suggesting a demand side phenomenon. The effect of growth in total employment in the locality also appears to depend upon which sectors are growing.

Vertical Disintegration

For SIC 855, some information on vertical disintegration (contracting out) can be derived using data on total employment in SOC 6115. In 1971, SIC 855 employed 24 per cent of all persons in SOC 6115, increasing to 33 per cent in 1981, implying some contracting out. Viewed another way, total employment in SOC 6115 per 10,000 total employees was 63.9 in 1971 and 73.6 in 1981; while employment in SOC 6115 per 10,000 total employees excluding SIC 855 was 48.7 in 1971 and 49.4 in 1981. Thus there was not really a loss of "other" private security jobs to SIC 855, but SIC 855 captured most of the substantial growth in security services employment.

A strong concern of the report is the impact of unionization on vertical disintegration, based on the author's personal interest. Initially, the expectation was that greater union presence would lead to higher wages, leading to contracting out. For both 1971 and 1981, the number of persons employed in SOC 6115 by industry group (this excludes SIC 855) as a percentage of total employment in the industry was calculated. The change in the union membership density by industry group was similarly calculated, and a strong positive correlation between the two sets of first differences by industry noted. This means that where unionization grew, private security personnel outside of SIC 855 also grew, indicating that the initial expectation was too naive. Apparently, unionization fosters a greater demand for total security services.

Empirical work with SIC 851 indicates that contracting out is less prevalent where unions are more prevalent, apparently reflecting the fact that although union-negotiated wage increases may increase the incentives for employers to contract out, union-negotiated work rules can effectively prevent them from doing so.

Discussion:

Employment Agencies, Personnel Suppliers, and Security and Investigation Services

Weiermair to Maki:

I'm wondering about the contracting out of security services. Have you looked at the effect of cyclical or seasonal variations in crime rates which might make it more practical to contract out security services rather than providing them in-house?

Maki to Weiermair:

Because I don't have any time series data, I can't give you any figures on cyclical variations. The only comparison I did make was between cross-sectional unemployment rates from 1971 and 1981, and those results agree with what you're suggesting. There are a number of reasons for using temporary help, and it does make sense that temporary help be used on the rebound of the cycle, but I was unable to test this hypothesis.

Denny to Maki:

Is there any way you could link insurance claims to your data on security services?

Maki to Denny:

I have found that a lot of private investigators work on insurance claims. That is a question I could explore more thoroughly, because the insurance claims data are available.

Bodkin to Maki:

It would be very interesting to research the growth of export of particular services which have been contracted out by the government to small firms, which then develop their own markets domestically and abroad for their areas of expertise.

Maki to Bodkin:

I don't have any figures on the export of services, although they are available, as we heard yesterday. The exporting of services is often done under the auspices of multinational enterprises (MNEs) – most frequently based in the United States – and disentangling the links between branch plants and the parent companies which in fact export the services can be very complicated.

Amusement, Recreation, and Broadcasting

William G. Watson
Department of Economics
McGill University
Montréal, Québec

My study deals with eight main Standard Industrial Classification (SIC) groups: telecommunication broadcasting industries; motion picture, audio and video production and distribution; motion picture exhibition; theatrical and other staged entertainment services; commercial spectator sports; sports and recreation clubs and services; gambling operations; and other amusement and recreational services. These eight groups are made up of 34 four-digit industries, under which the SIC manual lists 190 separate different activities, ranging from acting to arena operation, from baseball to ballet, from set designing to the Stanley Cup, from wrestling promotion to pinball. Probably the only generalization that can be made about this cornucopia of possible activities is that generalization is likely to be difficult.[1] The lowest common denominator I can find is that, with one or two exceptions, these industries produce services that Canadians consume during their leisure – to entertain, amuse, or otherwise divert themselves.

At this stage work is still in progress. Nevertheless, in these comments I would like to say something about where the (presumably increased) demand for entertainment comes from, briefly describe the growth of three of the industries, and close with one or two general comments about economic policy. Everything I say should be regarded as preliminary, however.

One final word before beginning: a common view of services[2] is that they are subsidiary to manufactures and natural resources, the true engines of most countries' economic growth. The standard counter-argument is that, on the contrary, services are often crucial: many are used as inputs to manufactures, while an increasing number are exported directly. This is not true of most of the industries I am looking at, however. In general, they produce final, consumption services that are not exported. If there is such a thing as a "bad" service, these are it. On the other hand, my own view – and I assume most economists share it – is that such distinctions are meaningless. An economy should produce what utility-maximizing consumers want it to produce. Some goods and some services are necessities; some are luxuries. But beyond this there should be no class distinctions (as it were) between the various goods and services. Physiocracy and mercantilism should be left in the eighteenth century, where they belong.

Sources of Growth

Most of the industries in my mandate produce services that take time to consume. As a result, the demand for them is likely to depend on the aggregate amount of leisure taken by citizens.[3] It will also depend on the "service-intensity" of this leisure (i.e., people can take leisure simply by sitting and staring or they can go out and do things, many of which require purchasing durable goods or consuming services).

Changing tastes will alter both the pattern and the extent of leisure-time activity. But because changes in taste are so hard to analyze economists prefer to focus on the influence of prices and wealth. Increases in the general level of wealth – such as have taken place in Canada over the last several decades – are likely to increase both the amount of leisure taken and the "service-intensity" of that leisure. Changes in prices can have more complicated effects, however. If an economy-wide increase in wages led to an increase in the price of services complementary to leisure – as would be the case if most such services were relatively labour intensive – this could be expected to reduce the "service-intensity" of leisure. At the same time, it would encourage people to take less leisure and to work more (assuming the "substitution effect" were greater than the "income effect").[4]

In fact, the dramatic increase in wages over the last century has been accompanied by a reduction in the average work week[5] and, more importantly, by an increase in the number of days off during the year, both taken singly and strung together in the annual vacation. On the other hand, while the average worker is working less and therefore has more time for the consumption of leisure services, many more people are working – especially women – than used to. So many more, in fact, that, as a proportion of the total number of person-hours available to society, the number spent in leisure may actually have declined in recent years. Whether it has depends on whether these new entrants into the labour force have simply substituted market work for home work. If they have, then aggregate leisure will have increased. If, on the other hand, a significant part of the time formerly spent at home had been spent in leisure, then the reduction in this form of leisure may well have offset the increase in leisure enjoyed on average by members of the offical work force. A related point is that if, as a good deal of evidence suggests, higher and higher tax rates have encouraged many people to spend more of their time away from official work engaged in such things as home and auto maintenance and repairs, then the decline in recent years in the hours of work performed by the average member of the work force will overstate the increase in leisure.

Some Stylized Facts About the Leisure Industries

A detailed description of the industries is provided in the final version of this research. Here I will simply recite several of the more interesting stylized facts that emerge from the industry studies.

As is well known, movie exhibition suffered greatly as a result of the introduction of television. In the last 30 years the total number of theatres has declined by more than 1000 (though with multiscreen theatres becoming more common the number of screens has not fallen so drastically). The industry bottomed out in the late 1960s and since has enjoyed modest expansion, with paid admissions and employment both up substantially since the early 1970s. The one part of the industry that has never seriously slumped is drive-in theatres, which entered a vogue even as the rest of the industry went into decline. Drive-ins currently account for one in four theatres (though because of their seasonal nature only one in 10 admissions). The timing of the industry's adjustment to television was interesting: in the three years following 1952, no fewer than 245 theatres, representing a 12 per cent expansion of industry capacity, came into operation. No doubt if Canada had had a national cinema policy at the time, much of this (presumably wasted) investment could have been avoided; on the other hand, if we'd had a national cinema policy, we might never have got television.

Movie distribution managed the advent of television much more successfully than movie exhibition, though it did so mainly by joining television: half the industry's revenues now come from TV. In effect, what seems to have happened over the last four decades is that B-movies and serials moved from the movie house to the television screen, and the film industry proper now concentrates on materials where the subject matter or technology of production often do not lend themselves to television distribution. Perhaps this theme should not be taken too far, however, since VCR rights now account for a rapidly increasing proportion of total revenues of the typical movie.

I do not yet have much data on movie production, though it is safe to say that not as much is going on as most Canadian governments would like – and that what is being done is often a result of foreign firms having decided for economic, artistic, or (more likely) fiscal reasons to do their production here. As is well known, the great bulk of movies seen in Canada are not produced in Canada though it is not clear (to me, at least) that the upset this often induces in people is at all warranted.

Radio and television broadcasting have also expanded rapidly, with employment in the industry trebling since 1956. TV ownership was at 6.8 per cent of the population in 1953; 80.6 per cent in 1960; and 98.6 per cent in 1986. CBC and private broadcasting used to be roughly the same size in terms of both costs and employment; private broadcasting is now larger – by roughly 3 to 2 on both scores. Within private broadcasting, revenues from TV and radio were equal in 1964; by 1985 television revenues were almost twice those from radio, though radio continued to employ more people than television. The CBC's salary costs per employee – both production and non-production employee – are substantially greater than in the private sector of the industry, though no doubt there are significant problems of comparability in the data. It might be noted that broadcasting is a difficult industry for economists to deal with, in that it produces a joint product: programming, which is given away free and is therefore hard to put a value on, and audience access for advertisers, the service the industry makes its money from.

The cable TV industry expanded in the 1970s almost as quickly as the over-air TV industry did in the 1950s. Eight per cent of Canadian homes were wired in 1967; 18.6 per cent in 1971; and 62.0 per cent in 1985. That most Canadians now receive their television through cables rather than over-air greatly expands the menu of possible policies for (what nevertheless is still termed) the broadcasting industry, though Canadian regulators have not taken full advantage of this. Financial growth within the cable industry has also been rapid, of course. Labour costs account for roughly a quarter of the industry's overall costs and though it is not a large employer, employment in the industry has grown apace with the number of customers.

At this stage I do not have much data on the performing arts. What I do have suggests that they do not employ very many people full-time (only 11,446 in 1976); nor, despite generous public subsidies, do they play much part in most people's lives. Roughly 1 in 75 Canadians sees an opera each year; roughly 1 in 25 hears live music (of the non-commercial variety); and roughly 1 in 4 attends the theatre. Moreover, these numbers tend to overstate participation since they do not account for multiple attendance: most people who have seen at least one opera in a year are very likely to have seen more than one.

Subsidies are crucial to the performing arts, providing 35 to 45 per cent of the sector's revenues. Interestingly, while the total subsidy is roughly the same proportion of overall expenses for music, theatre, dance, and opera, the share provided by the different levels of government varies from art to art. The per person subsidy also varies considerably. The best deal is opera, where in 1982 the average attendee was subsidized to the extent of $17 per performance; the worst is theatre, where the subsidy was only $5.

The bottom line in all of this[6] is that there has been a good deal of change in the last few decades in both the amount and pattern of amusements Canadians have provided for themselves. That we should wish to control this process – or would be able to if we did wish it – is not at all clear.

Policies for Entertainment and Culture

Thumbing through an arbitrary list of industries and picking out the market failures that look as if they may need corrective policies is the wrong way to go about policy making. The right way is to scan the entire economy, look for the most serious market failures, decide whether attempts to correct these failures will be prone to the more virulent strains of government failure, and then – and only then – act. Would-be policy makers must also be aware of the possible consequences of their actions in other sectors. If second-best has taught us anything, it is that the economy has no quiet corners where we can tool away happily without fear of making things worse elsewhere.

A second general comment on policy is that, so far as I can see, none of the market failures to which these industries may be subject arises because the industries produce services rather than goods. There is nothing intrinsic to the production of services that requires public intervention. Some services may suffer from market failures – just as some goods do – but there is no reason to presume that market failure is something to which services are particularly vulnerable.

The most common forms of market failure involve public goods, common property resources, externalities, natural monopolies, imperfect competition, irreversibilities and option-values, and merit wants[7]. The remaining paragraphs of this presentation suggest how the industries under study may fall prey to these various failures. Whether the failures are serious enough to merit public attention and whether government has reasonable prospects of correcting them without making matters worse are questions left to the longer study.

Over-air broadcasting of radio and television programming shares at least one characteristic of the public good: while exclusion is possible (via scrambling of signals) it may not be desirable, since the marginal cost per extra viewer is, within given geographic limits, zero. This is also true of direct broadcasting via satellite, though, of course, the geographic area over which the good is public is generally larger. It is not true of cable distribution, however: while the cost of adding an extra viewer to the system may decline with the number of viewers, it is not zero. These considerations suggest that private supply of programming may vary from optimal supply in terms of both quantity and content. On the other hand, supply financed in the private manner (i.e., by user charges) provides much more information about viewer preferences and satisfaction levels. In short, what is lost at the extensive margin by excluding viewers may be gained at the intensive margin by providing programming more attuned to what people want. This way of looking at the problem is not at all current in the Canadian regulatory community, however.

Since the electromagnetic spectrum provides limited room for radio and television broadcasting it also has many of the characteristics of a common property resource. If access is not controlled in some way, there may be congestion on the spectrum and, as a result, poor quality of signal.[8] On the other hand, it is not clear that content regulation of the sort we have adopted is the best way of dealing with this problem. An obvious alternative is to auction off slots in the spectrum periodically, rather than to give them away in exchange for performance guarantees of one sort or another. In fact, the recent proliferation of signals arising from both satellite broadcasting and the VCR suggests that future performance guarantees are even less likely to be honoured than past ones: the industry simply will not be able to produce the excess profits that a system of cross-subsidization requires.

For its part, distribution of signals by cable has many of the aspects of natural monopoly. Even so, consumers can get their entertainment – including television programming – from an increasing number of readily available substitutes. Thus the natural monopolist's power to exploit may be limited. On the other hand, because the marginal cost per subscriber does decline, pricing at marginal costs is likely to involve the supplier in losses.

One aspect of the cable industry that has not been emphasized greatly in the literature is that in most systems there seems to be considerable excess capacity (i.e., lots of unused channels). Maybe this is an unavoidable feature of a delivery system that on balance is efficient; but maybe not. For example, cable companies that own television stations may be tempted to reduce competing stations' access to the cable. As technology provides greater and greater capacity in the industry, the regulator may wish to consider the possibility of regulating the wire but not the signal, as is the custom in telephone communication.

In the movie distribution and production industries there may be garden-variety industrial organization problems, i.e., the industry does appear to be highly concentrated. Though large numbers of substitute forms of entertainment – and, indeed, of ways of watching movies – are available, this may pose a problem worthy of policy-makers' attention. The industry is more glamorous than most but imperfect competition is by no means exotic. There is ample legislation, much of it of recent vintage, to deal with the problem of exploitative oligopoly.

In the performing arts the "irreversibility argument" is a common rationale for public support. The idea here is that if Canadian opera, for example, were not subsidized, skills would be lost that could not be reproduced easily should the demand for them arise in future. In this case the main questions are empirical: just how crucial is public support for the survival of Canadian opera – or[9] for the survival of opera itself? And what *would* be the cost of re-inventing these skills should that prove necessary in future?

Similarly skeptical questions must be asked about the other major rationale for public support for the arts, namely that it is necessary in view of the important "externality" they produce by reinforcing Canadian identity. It is in the nature of externalities that they are hard to measure; in this case, however, there is never any attempt to measure them. Rather, the custom is simply to assume that, however large they may be, they are large enough to justify the existing level of support.[10] Benign neglect of this question has led to the anomalies described above, in which the average opera goer gets more than three times the subsidy of the average play goer, even though plays presumably contribute more to Canadian identity than operas do.

There obviously is a good deal more to be said about policy questions in these areas, though most of it must be left to the longer study. I will close with a brief comment about two arguments that in my view do not justify public subsidy of the various entertainment industries. The first is the "merit good" argument, the last refuge of the interventionist. All other market failure arguments having themselves failed, proponents of public support often simply assert that the goods they themselves would like to see the state subsidize are "merit goods" – that is, goods that people should be forced to consume whether they want to or not. The process by which this decision is arrived at is seldom described, however. The one obvious presumption is the people whose preferences are to be overridden will not have a say. While it is perfectly understandable that upper middle-class professors, say, should wish to see greater public support for intellectual radio, something that the vast majority of the population—92 per cent, if the Caplan-Sauvageau report is to be believed—do not listen to, it suggests very strongly that what most advocates of merit-goods are engaged in is rent-seeking, pure and simple.

My final comment concerns the Baumol-Bowen argument about productivity growth in services, which is often used—I would argue incorrectly—as a rationale for public support for the performing arts. Their argument is that in a period in which real wages are rising, industries whose output is chiefly labour (and which therefore are unlikely to experience offsetting productivity increases) will suffer increases in relative prices. This may well be true[11] but it is simply an example of the price system working: the prices of such services are rising because the resources they use have become more expensive. If people respond by demanding fewer such services,[12] so be it. Economists who are consumers of these services may lament this fact, but they do so as consumers, not economists, and their personal preferences should not be construed as having professional sanction.

Notes

1. One obvious conclusion is that there is no good reason for any Canadian ever to be bored.

2. Though presumably not common among attendees at this conference.

3. Of course, the process is really a "simultaneous" one: my having leisure does enable me to consume leisure goods and services. On the other hand, the availability of interesting things to do during leisure time may encourage me to take more leisure.

4. The substitution effect says that when wages go up people work more because consuming leisure has become too expensive: the extra hour spent in leisure now costs more in terms of forgone income than it used to. The income effect, on the other hand, says that if wages go up, then people currently working a given number of hours are effectively wealthier than they were. If leisure is something they consume more of when they are wealthier, then they will decide to work less. What actually

happens depends on the relative strength of these income and substitution effects and that will vary from person to person.

5. Though it has declined only about 10 per cent since the Second World War.

6. I do not yet have data for the sports and games on my list, though they will be described in the final version of the study.

7. A list that is not meant to be comprehensive.

8. Though a game-theoretic analysis of this problem would not necessarily predict the emergence of a stable, low-level equilibrium.

9. More hilariously, perhaps.

10. Or, better still, in the view of the arts lobbies, a 10 to 15 per cent annual increase.

11. Though even string quartets (Baumol's classic example) can experience productivity growth if, for instance, the invention of digital recording techniques enables literally millions of people to listen to concert-quality recordings of their performances.

12. Which is likely to be the short-run response, though it may be swamped over time by the effects of increasing incomes, since the demand for the arts is income-elastic.

Discussion:

Recreation

Palmer to Watson:

Of the 190 industries you are studying under the broad heading of recreational services, many cater to specific demographic groups – movies geared to teenage audiences, for example. Demographic changes, then, must have a substantial impact on these industries.

Watson to Palmer:

That's certainly true – it's no coincidence drive-in theatres proliferated during the late 1960s when the baby-boomers were teenagers.

Dobell to Watson:

I was struck by your observation that there is little prospect for future employment in this sector. As you noted, there is certainly high labour content in these activities – and the optimistic Herman Kahn vision of the future sees this area as one of the major growth areas for the post-industrial, leisure-oriented society. Conventional wisdom, too, has hopes for the sector as an area where people might in future find meaningful employment.

I wonder whether part of the reason for your low employment figures is that you were referring to full-time employment only. Much of the employment in this area is part time or even voluntary, some of which may shift into partially compensated activity in the future.

It does seem to me that if your study concludes that the prospects for employment in this area are not great, it's going to be a striking, and rather depressing, observation about the prospects for full employment in the economy as a whole.

Watson to Dobell:

I don't agree with your last remark – if people don't find employment in this field they will find it somewhere else, and markets will adjust.

With respect to the labour intensity of recreational services, the performing arts are certainly very labour intensive, although unfortunately, I don't yet have good data on the growth of this area. With the number of commissions that have studied that question, I will obviously have access to more data. Radio and television, of course, is very capital intensive, with cable TV allocating one quarter of its operating revenues for the purchase of labour services.

McRae to Watson:

I was surprised to find that you omitted from your list of policy questions any reference to intellectual property and specifically copyright. Many of the industries covered by copyright and trademark legislation are highly tradeable, and with the interaction of U.S. and Canadian legislation, market niches can be found which permit the successful export and import of these services. I would encourage you to look at the trade aspect of recreational services, and the underlying institutional and legal mechanisms which protect property rights in this area.

Stanbury to Watson:

I don't want to add to your burden, but I think you should make some reference to illegal or underground services. It may be that with increasingly stringent regulation in Canada the demand for an underground service industry grows as well.

Gigantes to Watson:

It seems to me that one cannot treat the performing arts simply as a matter of pure economics. It's an educational activity, in the same sense, perhaps, as some aspects of higher education, such as the teaching of literature. If you treat it as education, then the question becomes, "what does it take to keep it alive?" If it's treated as a matter of economics, then obviously there's an argument for wiping it out. No country has ever done that; in fact, most countries subsidize their performing arts a good deal more than does Canada.

Watson to Gigantes:

Like most people, I like most of the performing arts and find them valuable, but I think the external benefits must be examined more carefully. Too often, I think, the arguments are used as a cloak for self-interest by the people whose livelihood depends on the subsidies. I don't pretend that there are firm answers to these questions as to the costs and benefits of the performing arts in Canada, but I think the tough question must be asked.

Luncheon Speaker:

Canada's Financial Sector: Poised for Export Markets?

Jill Bodkin
Founding Chairman
British Columbia Securities Commission
Vancouver, B.C.

In trade in financial services, even more than in other service sectors, Canada must preserve and expand on its place in the world's markets, or be passed over by the competition.

Canada's financial sector is thriving today, beyond that accounted for by vigorous markets worldwide. It is in the best interest of the Canadian public to adopt policies which attract both Canadian and non-Canadian firms to conduct their financial affairs with strong Canadian-based financial services companies, able to inspire the confidence of the international community. We must welcome the long-term commitment to our Canadian market represented by investments here by strong international companies. We must take care, however, not to adopt policies which place Canadian-owned firms at a competitive disadvantage.

Given the international character of financial business today, it is increasingly difficult to contain firms within our borders, and to insist upon compliance with regulatory concepts that are artificial to the international community. As footloose as their clients, including Canadian multinationals and governments, financial firms will transact business wherever it is most advantageous. The ideal is to attract to Canada the conduct of financial business by non-Canadians, building on the base of strong financial firms well able to serve the domestic market.

Exports are essential to our economic survival. In a recent speech in Vancouver to a Financial Post Conference, John Morrell, the chairman of Baring, described how the British Committee on Invisible Exports has for decades recognized that capital from elsewhere, channeled through the City of London, fuels employment of Britons.

In order to understand the public policy issues which face Canada in fostering the export of financial services, we must be outward looking. It is essential to understand the evolution of the international financial environment, in which our firms must operate.

Banking has become increasingly global through several cycles. First, banks followed multinational corporations around the world. Later came recycling of petrodollars through Euro-markets, and sovereign loans to Third World countries. Now we are experiencing a massive recycling of Japanese savings invested in the world's markets.

Securitization, where instruments between ultimate supplier and user of funds are repackaged and assume value, is an important feature of current financial markets. This arose as banking margins became too thin because of cost of funds to banks. Many corporations have found that they can raise money without bank intervention.

Also, as interest rate and currency fluctuations have become key determinants of profit or loss, there is a need to hedge against these exposures. For instance, the recent rise in the Canadian dollar has had an effect on sales of our forest products into the United States. Companies require hedging instruments. These instruments assume liquidity and are traded for their own potential value.

There is also a trend for industrial firms to seize opportunity for profit in the financial intermediation field. U.S. computer giants like IBM and Honeywell are jumping off from leasing into other financial services. British Petroleum formed its own bank. Japanese firms like Sony, facing reduced profits from traditional export of products with the rising value of the yen, are making higher profits from financial dealings. Air Canada shows its credit card subsidiary, En Route, as an important profit centre.

Computerization and telecommunications are enabling mass retailing at low cost, 24-hour trading and the choice of worldwide locations to conduct transactions.

We must continue to adopt policies which support export of Canadian financial services into this environment. Our firms are well poised today. This sector is a Canadian success story, with several cities enjoying particular niches in the overall financial community.

Toronto is recognized in the international community for commercial and institutional financing, and is a natural magnet for the growth of Canada's penetration of large scale markets. The Canadian banks' share of the world market has consistently been in the order of 5 to 7 per cent, with much of that done from a Toronto base.

Montreal demonstrates the determination of French Canadian businessmen, backed by the support of Quebec government, to use opportunities to finance Quebec enterprise as a base for the growth of Quebec-based financial institutions. One example of forward-looking legislation is the Quebec Stock Savings Plan. The success of Montreal is a credit to the vision of men like Jacques Parizeau and Claude Castonguay in building the Laurentian Group. The strength of the Desjardins movement is a legacy of earlier visionaries.

Many in Canada have not yet noticed what is happening in Vancouver, where the financial and commercial sector is growing rapidly. Our venture capital exchange has been doubling each year. In 1986, $700 million was raised, with a third going to non-Canadian ventures. More than a third of the investors are non-Canadian, including major European institutions. More than 30 per cent is in non-mining ventures. We recently welcomed the major commitment of the Hong Kong and Shanghai Bank, which brings more than a century of acumen in worldwide trade finance, plus strong capitalization, to their investment in the Bank of British Columbia.

Among the various segments of Canada's financial community, each enjoys a particular strength. The banks are strong nationally and internationally, and worldwide subsidiaries of Canadian banks have operated successfully as investment bankers. Both Japan and the People's Republic of China are important target markets for Canadian banks. Canada's insurance firms are well connected internationally. Our securities firms have ensured strong Canadian capital markets, with several playing an important role in international markets. Trust companies offer important financial services, with interesting recent competition for non-Canadian business in the management of estates and trusts. Credit unions are well positioned in the domestic market, especially in Saskatchewan, British Columbia and Quebec. Recently formed financial conglomerates are strong nationally, and several have subsidiaries active outside the country in activities like merchant banking. Certain firms have found a market niche as research boutiques or portfolio managers.

Although foreign firms have traditionally been limited in their access to the Canadian markets, they have operated fully in institutional markets exempt from regulation. Experience with Schedule B banks has demonstrated the advantage of increased competitiveness to business and individual customers of the banks.

Taken together, the Canadian and foreign firms operating in our financial sector have a great deal to offer. Their location here is in no small part due to the competitive advantages of Canada itself. This advantage is demonstrated by the desire of the world's most important financial firms to enter our market, and massive inflows of capital – $87 billion last year. We have a broad range of firms, from the venture capital to the large institutions, with four stock exchanges, and well developed professional support. There has also been a recent decrease in concentration, in spite of the relatively small size of our domestic market.

Canada enjoys high regard in international financial circles, despite periodic jeopardy to that reputation caused by the inability of our federal and provincial governments to establish a consistent regulatory scheme. Even the failures experienced over the recent recession were relatively minor, in the perspective of worldwide experience.

In economic and trade history, Canada is very young. It is critical that we maintain the vigour of our commercial and financial community. We offer tremendously attractive cities for people to live in and to visit to conduct business. For it is people, in the end, who are the cornerstone of the financial business. The need to maintain our attractiveness, incidentally, has implications for policies with regard to education and quality of life in our cities.

Canada has telecommunication and transportation systems which work. They are well linked to Pacific Rim, United States and European centres.

In world political terms, we are a middle power, not likely to place capital from elsewhere at risk of seizure.

All of these factors lead to the conclusion that financial services are important to Canada's future prosperity. Firms operating from Canada are well positioned to penetrate export markets.

Public policy in support of export of Canadian financial services is critical. There are three areas of importance – regulation, taxation, and trade policy.

With regard to regulation, after a frustratingly long period of examination, Canadian governments are now getting on with reform. Having experienced the difficult years as a regulator of both financial and securities firms, I welcome recent legislation brought in by federal and provincial governments. The long-awaited legislation enabling Canadian firms to offer a mixture of financial services is essential to them being poised to compete. The more open attitude leading to policies allowing non-Canadian entrants to join our securities markets will increase competition to the advantage of Canadian companies seeking capital and Canadian investors. Indeed, in current markets there is excess capital seeking investment opportunities. This should be an advantage for small and medium-sized businesses.

Unfortunately, the federal legislation creates impediments to links between financial and commercial enterprises which will operate to the disadvantage of Canadian firms.

Investor and depositor confidence will be shored by legislation strengthening supervision and remedial powers. Governments also seem committed to the strengthening of the calibre of people in regulatory positions. Regulators' determination to strengthen enforcement is illustrated by the recent prosecution of market manipulators in the Vancouver Stock Exchange's so-called "Black Friday." The fact that those convicted received the longest single sentence ever imposed for a commercial crime in Canada sends a clear signal to the international community that Canada is not a lax jurisdiction. Reaction to recent financial scandals worldwide has demonstrated that the public is increasingly intolerant of fraudulent behaviour on the part of people in the financial business. A strong regulatory framework is vital to the confidence which encourages the public to put their savings to work in the capital markets.

The ominous prospect of further federal-provincial discord is, however, a very real threat to the momentum behind legislative and policy changes which should be largely in place by summer of this year (1987). We are often told by the international financial community that the greatest single threat to our reputation is the inability of our federal and provincial governments to reach agreements which will enable firms to operate consistently across the Canadian commercial marketplace. This very week we have seen a mission to the New York investment community undermined by bleating over the exclusion of the other provinces from the agreement between the federal and Ontario governments regarding regulation of new players in the securities business.

We must accomplish a unified system which does not subject firms to duplication of regulation, or confusion regarding requirements. The concept of delegation of powers holds some promise for keeping this issue out of the constitutional courts. Let us hope that the spirit of the Meech Lake Accord will be translated into action in federal-provincial harmonization of regulation of financial firms.

Regulation in other fields also affects the competitiveness of Canada's financial sector. Access to national and international telecommunications systems is critical to the conduct of financial transactions. Professional services in support of financial business must be available. For instance, current barriers to interprovincial affiliation among legal firms are inconsistent with the way in which financial and commercial business is done.

With regard to taxation, we must understand the risk attached to approaches to tax reform which would tax transactions, under whatever guise. The Toronto Stock Exchange points out that the 10 securities which account for more than half of trading on that exchange are also listed in New York. Further, it is noteworthy that more trading of these same securities is conducted in New York than in Toronto. Over 70 Vancouver Stock Exchange-listed companies also trade on the North American Securities Dealers Association over-the-counter trading system in the United States.

We must continue to have strong stock exchanges which attract firms which will also seek the larger markets outside Canada. It would be, however, disastrous to impose costs in the form of taxation which drive financial business outside our borders. The result will be that Canadian corporations and governments will simply do their financing elsewhere, even when dealing with Canadian financial houses.

The proposed legislation providing tax advantages for international banking centres has symbolic value for Montreal and Vancouver, but has the regrettable consequence of pitting one city, Toronto, against the others. Rather, Canada should be sending an international signal that we want to attract more business to our country, based on the particular niches of each of our cities. New York is not harmed by commodity trading centred in Chicago. The unfortunate lack of analysis has led to a federal bill that is based on spread banking, largely sovereign risk loans, as no longer done. The federal government should be building on a commitment to accelerate development of the range of international activity which is already taking place in Montreal, Vancouver and Toronto. This will require cooperative work among those in the private sector and governments to identify those measures that will cause the international financial community to choose to do business here.

With regard to international trade negotiation, the inclusion of trade in services on the GATT agenda is evidence of a worldwide desire to participate in markets increasingly dominated by services. The United States and Canadian negotiation of freer trade in financial services represents an opportunity for both Canadian banks and securities firms to press for penetration of U.S. markets. The reality is that the United States is still balkanized by laws against interstate banking and Glass-Steagall Act impediments to merchant banking functions. There is some cause for optimism in that pressures are mounting within the United States to remove barriers between banking and securities dealers.

The combination of Japanese and Canadian deregulation creates opportunities for Canadian firms to seek the massive business opportunities created by the Japanese export of yen. The Japanese invested abroad $180 billion net last year. They were the largest investors in Canadian government debt. It is noteworthy that the committee of senior Japanese businessmen, whom many of us had opportunity to meet last fall as they were studying Canadian investment opportunities, reported favourably to Prime Minister Nakasone. This is in sharp contrast with a similar mission 10 years ago. They also expressed high stakes in Canada-U.S. free trade, as a basis for Japanese direct investment in Canada, to enable penetration of North American markets.

In conclusion, then, it is critical that Canada adopt public policies which foster growth in the export of financial services. The world does not need us. Rather, it is to our advantage for them to choose Canadian financial services. To accomplish this, we must have strong firms, able to compete over good and bad business cycles in the economy of the coming decades. We should heed the experience of European world's fairs, which changed patterns of trade and commerce over the transition from the Dark Ages to the Renaissance, and led to the creation of the first international financial centres. Last year Canada welcomed the commercial world to our world's fair. Let us establish our place as a crossroad for the high technology commerce of the world's financial community in tomorrow's economy.

PART IV

STATISTICAL ISSUES

Marketed Business Services

Anna Ansmits
Director
Services Division, Statistics Canada

Introduction

In 1986 the Department of Regional Industrial Expansion (DRIE) requested that the Resources, Technology and Services Statistics Branch of Statistics Canada undertake studies to assess data gaps with respect to various service industries, and to establish the feasibility, methodology and costs of collecting additional information critical to addressing issues outlined by DRIE for studies undertaken by IRPP and the Fraser Institute. It was agreed that, among other projects, the branch would examine marketed business services in the following industries.

- Engineering, architectural, and scientific services
- Computer services
- Insurance
- Telecommunications
- Financial institutions
- Management and other business consultants

Examination of these industries would entail case studies of businesses to establish the feasibility and costs of describing service outputs and of collecting information on volume, value and price measures for such outputs.

The final reports will provide:

1. descriptive analyses of the organization of the industries and their mode of operation
2. identification and classification of the products of each industry
3. the feasibility and costs of collecting a targeted set of data (including the identification of appropriate sources and/or survey vehicles)
4. estimates of outputs, inputs and other key variables, where feasible

The project is to be completed at the end of fiscal year 1987/88.

This interim report outlines progress to date on the study of marketed business services for engineering, architectural and scientific services, and computer services.

Engineers, Architects, Scientific Services

Since 1972, periodic surveys have been conducted for the engineering, architectural and scientific services industries (SIC 775). Over time, it has become evident that there was a need to delineate the universe more clearly, include secondary producers, define services, and analyze industrial structure, technology and markets.

In this context, and with DRIE's support, the Services Division of Statistics Canada has begun an examination of these industries. A substantial amount of progress has been made towards delineation of the universe, and definition of services. The profiling which was undertaken has provided vital industrial information which will be tested with survey results expected during this fiscal year.

Activities to Date

Research – The most recent reference year for which Statistics Canada survey data are available for this sector is 1982. The divisional master file of engineers, architects and other scientific services was used to identify the largest firms (in terms of dollar contribution to industry revenues) within each segment of the industry. This list of firms formed the nucleus of the profiling process. Before conducting field visits, background information was gathered for those firms identified from the divisional file. This included profiles contained in the ACEC publication and information carried on other Statistics Canada files, as well as newspaper and magazine articles.

Profiling – Personal interview profiles were conducted by Statistics Canada personnel with experience in services statistics and pricing. For the most part, profilers met the vice-president of finance or equivalent (e.g., controller, accounting manager) at the corporate head office, discussing the same standard set of issues to determine legal and operating structures of the company, and the feasibility of reporting detailed data on standard financial statement questions, and revenue by type of service, by foreign *vs.* domestic projects, by client industries, and by type of structure or project. The profiling process enabled us to establish our definitions of services, and specializations. The process also provided some indication of industry pricing practices and the data requirements of the respondent community.

Telephone interview profiles were conducted for units in the universe not covered by the personal interviews, to obtain frame data, and thus establish the universe.

Data Base – A data base has been established to keep track of companies profiled by personal interview. For all companies entered into the data base, relevant statistical information has been appended, including results from the 1982 survey, and the most recent data available from administrative records. The data base is still at an incipient stage and will be augmented at the conclusion of this year's survey.

Questionnaire Development – The profiling exercise has indicated the existence of professional sensitivities as well as inherent differences with respect to definition of services, accounting practices, and the structure of enterprises in these industries. In order to collect more appropriate data and ease response burden, it was decided to formulate three questionnaires, one for each of the three industries. The questionnaires have undergone several revisions, and were scheduled to be mailed to respondents in the fall of 1987.

Publication Plans – Preliminary results will be distributed to respondents as soon as possible after the close of the survey. Decisions regarding final publication format were not to be made until late 1987. However, every attempt will be made to present the data in a manner that better responds to user needs.

Profiling Results – An Overview of the Industries

Personal interview profiles (case studies) have been conducted for firms in all three industries (i.e., engineers, architects and other scientific services).

The following table indicates the extent of profiling to date in each industry.

Telephone Interview Profiles

Telephone interview profiles were initially conducted with the firms believed to be single establishment enterprises. Subsequently other enterprises within the SIC 775 group which had not been profiled by personal or telephone interview were included in the activity.

The results of the telephone interview profiles are still being processed; consequently, definitive remarks on the structures of the industries and of the enterprises would be premature.

The Structure of the Industries: The Statistics Canada Framework

For statistical purposes, Statistics Canada describes the organizational structure of production in terms of the homogeneity of goods and services, the availability of key elements of the data, and geographical dispersion.

The most discrete unit within this configuration is the establishment – a production or operating entity with optimum homogeneity of goods and services, minimum geographic dispersion, and for which, in the worst case, records are available for revenue or direct costs, and employment. It is usually a cost centre in the accounts of the firm.

One or several statistical establishments will be associated to form a statistical company which is typically a division or department and usually constitutes a profit centre. One or several statistical companies will form a statistical enterprise, or a group of statistical companies with ownership links for which a consolidated report is prepared.

The objective of the creation of "profiles" of the firms' organizational structures is to provide the basis for consistent survey frames for each industry and region.

Some distinctions in industrial structure are reported in Tables 2 through 5.

Consulting Engineers

Outputs of the consulting engineering industry derive from both primary producers (firms classified to SIC 7752) and secondary producers (firms which belong to industries other than 7752, but which provide consulting engineering services on either a marketed or own-account basis). The profiling process, by its nature, concentrated on examination of primary producers; there were, however, some firms profiled which are secondary producers. Because of the small number of secondary producers profiled, any conclusions based on these observations would be premature at this stage.

Primary Producers

It must be borne in mind that only the very large firms (i.e., revenues greater than $1 million) were profiled. Therefore, all observations and generalizations apply to a rather small segment of the entire industry, in terms of absolute numbers of firms. On the other hand, these firms contribute a large share of industry output, and changes within this segment will have far-reaching implications.

For the most part, consulting engineering is provided by groups of incorporated companies which make up distinct enterprises. The enterprises encompass a relatively large number of subsidiaries, most of which provide consulting engineering services. The exceptions would be subsidiaries which provide engineering support services to the parent, such as computer aided design and drafting (CADD) services, economic analysis and feasibility studies, and computer services. The fact that these "branches" are themselves legal entities facilitates the collection of relatively pure data on engineering revenues.

Enterprises within the industry undertake projects either as the prime consultant or the subconsultant depending on the client and the type of project. A growing phenomenon seems to be the participation of firms in joint ventures. The profiling indicated that 85 per cent of engineering firms participate in joint ventures, both domestic and foreign. An examination of the 1986 data will be necessary to confirm this observation.

The industry was seriously affected by the 1980-1982 recession, and many of the companies profiled have yet to return to pre-recession employment levels. There has been some interesting fall-out from the recession, much of which we hope to verify with survey data. One result was massive lay-offs from large firms of highly qualified personnel, who in many cases decided to establish their own consulting firms. Thus, we would expect to see a large growth in sheer numbers of firms, and perhaps in the proportion of unincorporated businesses. As a result of the establishment of firms with much lower overhead, price competition became acceptable and prevalent, in spite of tariff guidelines provided by the professional associations. This trend might become observable through the data.

Another result of the recession is the industry's continuing fear that it could happen again – hence the tendency to hire "contract" or "project" employees. This year's questionnaire recognizes this trend, and does pose a question related to contract employees.

Secondary Producers

The profiling process covered only two secondary producers of engineering services and, therefore, observations are likely not representative. However, the survey for the 1986 reference year will attempt to begin measuring the output of the total industry, i.e., inclusive of secondary production: questionnaires will be mailed to identifiable units in other industries such as utilities and some large manufacturers.

Structure of the Enterprise

The consulting engineering industry appears to differ from other industries in the sense that the operating structure of the enterprise frequently mirrors the legal structure.

There are a number of factors which influence the internal structure of an enterprise. The profiling indicated that separate legal entities tend to be established if the service provided is not strictly engineering, e.g., economic and feasibility studies are often performed under the umbrella of a separate legal organization, even though the services are provided directly (or solely) to the engineering parent itself.

Furthermore, separate legal entities (as opposed to branch offices) are often established for each province in which the parent company operates. Discussions with industry representatives indicate that this occurs, not so much to satisfy legislative requirements, but rather to establish a legal (hence, credible and visible) presence in the province of operation. Very often these quasi-branch offices specialize in only some of the fields of expertise offered by the parent company.

Government policy also plays a part in enterprise structure. For example, municipal contracts are generally let to firms incorporated in the province of the municipality.

The existence of such well defined legal structures is advantageous *vis-à-vis* data collection. The statistics gathered will tend to be pure with respect to SIC, and will provide reasonably accurate breakdowns of revenue by province and type of project.

Services/Type of Project/Client Industries

Engineering firms offer a multitude of similar services. After considerable discussion, and collapsing of classes of similar services, we are proposing the following list of services as a promising target for data collection at this stage:

- Consultative and advisory services
- Preparatory studies
- Pre-design and design services (including plans and specifications)
- Services during construction
- Management services
- Supplementary services (e.g., preparation of cost estimates and operating manuals, and technical training)
- Turnkey services

Technological Innovation

The high-tech age has arrived in the offices of consulting engineers. Certainly, the large firms are steadily increasing their computing capability with the acquisition of mini-computers, and sophisticated computer aided design and drafting (CADD) equipment. Among the large enterprises, the extent of computerization seems to depend more on company philosophy than size.

How valuable is CADD? The perceptions of value differ considerably throughout the industry. The larger firms see CADD as a real cost saver. Where one engineer used to require three technicians (i.e., draftspersons) to develop a design, the ratio in some firms has declined to as little as 1/3 technician per engineer. The average among the large firms seems to be a decline to one draftsperson per engineer. The larger firms, of course, can actually see a difference in ratios of engineers to technicians because of the size of their workplace. The smaller firms do not see the same decline in ratio, mostly because they have fewer positions which can be cut because of increased productivity as a result of CADD capability. All firms, but particularly the smaller ones, view CADD in terms of increased flexibility, allowing the company to continue to profit on projects in times of tight competition, as redrafts take less time (hence cost increases based on hourly rates of technicians can be minimized). In general, the basic ratio of technicians to engineers has not changed significantly in the smaller firms but, rather, the firms have been able to maintain a competitive position.

Ancillary computer capability exists within some of the large firms, enabling engineers to make detailed calculations in seconds for their designs. Some firms use packaged software; others have developed their own custom engineering programs.

Ownership

Of the firms profiled, 85 per cent are Canadian-controlled. The frame was too small to draw specific conclusions about the correlation between firm structure and behaviour and ownership.

Foreign Investment/Foreign Projects

It was found that virtually all firms profiled (95 per cent) participate in foreign markets. The 1982 publication indicates that foreign revenues accounted for 11 per cent of total revenues; discussions with the industry, however, indicate that offshore markets are becoming more attractive, and therefore one should expect that the 1986 data will show a significant increase. The data should also indicate whether foreign projects are undertaken only by the very large firms, or whether the market is accessible and attractive to small firms as well.

The major difficulty that exists with respect to assessment of foreign market penetration is the fact that many large firms establish foreign subsidiaries to perform off-shore work. (Of the enterprises profiled, 65 per cent have foreign subsidiaries.) Revenues of foreign subsidiaries will not be collected in the context of the survey because they do not contribute to Canadian GDP. For this reason, it may be difficult to accurately assess, via the survey alone, the full extent of foreign market penetration.

In those cases where subsidiaries are not set up abroad, foreign engineering work is performed in Canada at the company's usual place of work. Sites are visited before design is commenced and then, later, when the construction phase of the project is under way, the site is visited periodically by the engineers, generally for short periods. Companies have indicated that it would be difficult to provide employment data related to foreign projects – most often, employees are remunerated in Canadian dollars at their usual place of work, and therefore there is no need for firms to account for hours worked by employees at the foreign site.

The degree to which firms rely on government financing varies. Again, because of the profiling sample, no general conclusions can be drawn *vis-à-vis* source of financing and other characteristics of the firm.

Pricing

Throughout the industry, there are three major methods of pricing services:

1. hourly rate
2. fixed fee
3. percentage of final project cost

The method used by firms depends on the type of service, as well as on the client industry, and also on the competitiveness of the market at any one point in time. In spite of guidelines provided by the provincial professional associations, and apprehensions about the potential impact on professional standards, there appears to be a fair amount of competitive pricing, since the 1980-1982 recession. In some cases, engineering firms are prepared to reduce their profit on a particular project in an effort to ensure that highly specialized permanent employees are working on a continuous basis.

Architects: A Pre-Survey Report

The industry has made numerous adjustments in the "post-recession" period, and these are particularly evident in Western Canada where it is possible that firms have not yet recovered to 1981 fee income levels.

A few larger architectural firms have reported that they and their competitors were trapped during the recession with long-term professional and technical staff, insufficient fee income to justify the salaries and wages expense, and insufficient retained earnings to pay the severance or wrongful dismissal awards. Consequently, survivors have adopted a term contract hiring strategy – similar to that adopted by offices of engineers and other scientific services. New or recalled employees are taken on strength only after signing a contract which specifies a termination date; benefits may or may not be included in this contract. The survey questionnaires have been revised to reflect this strategy.

Another employment-related strategy reported by architectural firms in the "post or prolonged recession" period is to rely more on purchased services to meet both own account and client needs. The magnitude of this shift since 1982 could be one of the interesting numbers extracted from the 1986 data.

Structure of the Industry

Survey results will indicate the magnitude of the difference between the size of offices of engineers, offices of architects, and of scientific services. However, a preliminary scan of the directories of the associations representing architectural and consulting engineering firms establishes that both the range and the mean for architects is much smaller than for engineers.

The geographic dispersion of incorporated architectural companies reporting to Revenue Canada in 1985 is also interesting:

- Twenty-eight per cent of the national total of incorporated firms were located in Alberta.
- The incorporated firms in B.C. (17 per cent of national total) had the lowest average revenue at $138,000.
- Forty-six per cent of the incorporated offices of architects in British Columbia had revenue less than $250,000 while in Ontario only 20 per cent fell below this level.

However, given the possibility that there are large numbers of unincorporated practices across Canada, no conclusions can be drawn until the survey data are available.

Structure of the Enterprise

The profiles indicate that, unlike the offices of engineers, firms in this industry are represented by a single legal entity, with one location, owned by the "senior partners" of the company.

Services/Type of Project/Client Industries

There is a definite demarcation between the services of the offices of engineers and the offices of architects. The client industry is often defined by the type of structure and, therefore, there is only partial overlap in the markets of these two industries.

Some of the marketed services, such as contract administration, are identical in companies of the two industries, and are offered as stand-alone services in other industries. Nonetheless, there are distinctions in "generic services of choice" between the two industries. While nearly half of the offices of engineers profiled identified "economic studies" as one of their services, none of the offices of architects indicated they performed these studies. On the other hand, interior design, urban planning, and landscaping were the secondary services identified by the majority of offices of architects.

The preliminary list of "architectural services" for the survey questionnaire includes:

- Pre-design consultation
- Design development
- Contract administration and field services

- Post-construction services
- Full traditional services

Technological Innovation

While CADD was in use in the majority of the firms profiled, the sample was too small to infer the extent of its application in the industry, especially given the known constraints of the size distribution.

Except for computerized accounting, no other technological developments were mentioned in the interviews.

Ownership

The traditional pattern of ownership of the architectural practice by senior partners of the firm is still prevalent despite incorporations. Although more than 80 per cent of the firms profiled by personal interview were incorporated, all were owned by what was traditionally called "senior partners," and today is called "employees."

Foreign Investment/Foreign Projects

All architectural firms interviewed were 100 per cent Canadian owned, and there is no suggestion, in any of the material reviewed, that there is any measurable foreign investment.

Two thirds of the offices of architects interviewed indicated participation in foreign projects. Of the companies that indicated activity in foreign markets, only one reported a foreign subsidiary, that is, about 20 per cent, in contrast to 65 per cent of the offices of engineers interviewed.

Pricing

In response to the perceived decline in market demand and increased competition in the industry, respondents have reported two marketing strategies: one is to adapt services to different client sectors, and the other is to develop foreign opportunities. Only the sectoral shift has been reported as unequivocally successful. Also, the foreign option demands considerably greater business development expense. However, the discrepancy in the reported success of the two strategies may only reflect the difference in the lead time required to develop a foreign rather than domestic client, reputation, and market.

Summary

While the contrasts between the engineering and architectural industries have been tentatively identified by the profiling activity, further potential for development of knowledge of the industries must be deferred to the first results of survey data. And subsequently, ongoing review and revision of the survey should be anticipated annually.

Scientific Services

The profiles of scientific service enterprises completed and summarized to date indicate that this industry is, in marked contrast to the other industries in SIC Group 775, capital-intensive. In the small sample of scientific services companies reported in the profiles the median ratio of revenue to initial cost of fixed assets excluding land and buildings was 4:1. In contrast, the offices of architects and offices of engineers typically had a revenue to fixed assets (excluding land and buildings) ratio of 12:1.

Not surprisingly, respondents have indicated that return on investment is the measure of health for a firm in this industry as well as for the industry as a whole.

Structure of the Industry

Profile information is available for only a small sample of primary producers in this industry.

The preliminary summary of profile information suggests that scientific services firms will be either single legal entities, or a subsidiary, and perhaps the subsidiary of an engineering firm, but not usually a parent. This is in contrast to the engineering industry, where preliminary summaries suggest a hierarchical network as typical, often including units (frequently distinct corporations) engaged in different industrial activities (construction, data processing, and steel fabrication are a few examples). It is also in contrast to architectural services which appears to be predominantly a single legal entity industry.

Structure of the Enterprise

Since the typical enterprise in this industry is a single legal entity it is not surprising to find that companies are organized by branches for other locations and divisions for other activities.

Of the companies profiled 30 per cent were active in other industries and 55 per cent had locations in other provinces; however, inferences about the population are not appropriate given the exceedingly small sample.

Pricing of Services

The profiling information summarized to date indicates that it may be possible to identify discrete units of service, i.e., units of output, for this industry. Such a list, however, has not as yet been developed.

Canadian Technology

Respondents have reported that Canadian firms operate with neither a technological advantage nor disadvantage. Yet there is comment on the lack of research and development in Canada, and the comment comes from both Canadian and foreign-owned firms.

Ownership/Foreign Investment

Companies in the scientific services industry, unconstrained by professional acts, are more likely than not to be publicly owned.

Of the small sample of firms profiled 20 per cent are foreign controlled.

Foreign Markets

One of the strategies to increase capital efficiency and decrease the impact of declining demand is to move into foreign markets. The strategy has been found to be successful with petroleum-related field services and the U.S. market because the access seasons in Canada and the United States are complementary; and if equipment is U.S.-sourced, Canadian firms do not encounter any entry barriers. However, other foreign markets have not yet proved profitable. The final obstacle reported was the difficulty in obtaining a Canadian financing package, currently expected by the client as part of the proposal.

Employment Patterns

Scientific field services to the oil industry have always employed local casual staff for some services in very large numbers, i.e., equal at any time to the permanent staff of the company. In addition to this practice, scientific service companies in Western Canada have reported following the same project-term hiring approach adopted by many companies in the engineering and architectural service industries.

Accounting Practices

Because repair and maintenance form such a disproportionately large expense for some of the scientific services, one of the accounting issues debated is whether repair and maintenance should be capitalized or expensed. For a broader slice of the industry, depreciation expense remains a major item. These items are generally insignificant for engineering and architectural firms except when real estate holdings are part of the companies' assets.

Survey – Reference Year 1986

The 1982 questionnaires, one for architects and engineers, and one for other scientific services, have been separated to recognize the inherent differences among the three sectors of the industry in terms of project types, and services provided. The suggestions made by DRIE have been taken into consideration during formulation of the new questionnaires. Other changes have been implemented based on responses and reactions from profiled companies, as well as a review of the 1982 data. For example, detailed breakdowns of foreign revenues for architects are not being sought, given that foreign revenues amounted to only 2.5 per cent of total fee income in 1982.

Also, in an effort to reduce respondent burden and augment survey results with administrative data, it has been decided not to survey firms with annual revenues less than $250,000. The complete universe of secondary producers will only become available for the 1987 or 1988 reference years after the profiling process for all firms in all industries has been completed.

Future Activities

The division intends to complete the study of the engineering, architectural and scientific services industry within the fiscal year. Further interview profiling will be undertaken to cover those segments of the industry not yet examined, for example:

- smaller companies – to determine whether differences exist in structure, behaviour, pricing practices and so on, because of size

- the Maritimes – most of our profiles have been of firms in Ontario and Quebec, and Western Canada; there may be regional differences
- secondary producers – to provide more comprehensive information on activity performed by companies outside SIC 775

It is also expected that the larger firms will be monitored on a fairly regular basis, through questionnaire follow-up and personal contact.

Computer Services

The computer services industry has been surveyed on an annual basis since the early 1970s. The sector is highly volatile, however, and needs constant monitoring. It had become evident that current breakdowns of revenue by type of service were not adequate and needed to be revamped before the industry was surveyed again. A revised and extended list was prepared in consultation with DRIE and industry specialists. In order to verify that the revenue categories were appropriate, profiling was undertaken of some of the largest computer services firms in the industry.

Research – Background information, similar to that gathered for the engineers, architects and scientific services, was collected before conducting the profiles. Because the industry had been surveyed for the 1985 reference year, it was also possible to obtain a copy of the 1985 completed questionnaire for each company scheduled for profiling. The questionnaires served as a starting point in discussions with the firms and enabled us to uncover some misinterpretations of questions.

Profiling – Interviews were conducted with the controller or manager of accounting. The most important part of the interview with respondents was a discussion of the services provided by their company, and the feasibility of their supplying the data at a disaggregated level. Another area of interest was the concept of price/quantity measurements, which generated a lot of discussion – some firms were very interested in measurement of this nature.

Questionnaire Development – Based on DRIE's suggestions, and after several discussions with other specialists, the 1986 questionnaire has been redesigned. Our discussions with the industry indicate that most areas on the questionnaire will be relatively easy to complete. An exception generally seems to be the client industries section. Modifications to the draft questionnaire were made where respondents indicated they had experienced difficulty in understanding the intent of last year's questions.

1986 Results – We are attempting a much faster turnaround this year, and hope to be able to publish 1986 results by the end of the calendar year. For 1986, we are looking into the feasibility of capturing data on some secondary providers of computer services.

Structure of the Industry

Computer services are provided by firms in many industrial sectors. Although Statistics Canada has conducted an annual census for a number of years the very nature of this industry represents a challenge in terms of measurement. First, the phenomenal growth of computer services complicates the task of accounting for the many small firms which start up each year. Second, the rapid evolution of types of services offered tend to blur industry boundaries and render the task of defining them very difficult and often arbitrary. Finally, the international aspect of this service blurs geographic boundaries and presents severe measurement problems.

Foreign Investment

Five of the 11 computer service firms visited had foreign subsidiaries and 2 of these 11 were themselves owned by U.S. parents, which means that 55 per cent of the Canadian-owned firms had non-Canadian subsidiaries. Granted, these were the larger firms in the industry and the incidence of foreign investment will be much lower for the industry as a whole. All firms which had foreign affiliates indicated continued growth abroad, much more so than at home.

It should be emphasized that this survey covers only the export side of the trade in computer services since the target population is restricted to firms which provide computer services, a subset of all firms which may import these services.

The only source of information on imports of computer services is from the balance of payments survey (BP21s) which covers all large Canadian firms. Although this survey is comprehensive, companies have difficulty in reporting their computer service transactions with affiliates since they are often bundled in other categories such as management fees, etc. There is no simple solution to this problem. Further blurring of the trade picture is a result of the increasing presence of branches of foreign software distributors. This phenomenon can be monitored more easily than the former, however.

Quantity and Price Measurement

A prerequisite to the estimation of price and quantity measures is a set of clear definitions of service outputs.

The product differentiation which these companies strive to achieve in order to capture their clients leads to a plethora of terms which sometimes describe essentially similar activities. Some rationalization of terms would be helpful to focus the statistical work in meaningful and useful areas.

Identification of the services performed may be less of a problem than "unbundling" them for pricing since it would appear that major client transactions are composed of a unique mix of services and differing quantities of those services.

Considerable effort and close industry cooperation would be needed to identify and maintain sufficient numbers of representative specifications of transactions.

Own Account and Purchased Services

Development of a survey strategy in this area is heavily dependent upon the availability of enterprise profiles, since the issues here involve, *inter alia*, intrafirm transfers and linkages between production, support services and the administrative functions carried out by the head offices. The enterprise profiles will not become available to the required extent until late fall. For this reason intensive development work in this area is scheduled to start only after September 1987.

However, a special effort was made to probe for the availability of the relevant information as part of the interview profiles for a small cross section of firms in manufacturing and wholesale as well as in engineering, architectural and computer services.

The preliminary visits to these large companies provided an indication that these firms could report on the degree of contracting out and the change in this practice over time. However, it is a big step from an interview with the controller to a full-fledged survey. The results indicate that a wide diversity of practices exist in this area.

The sample of firms is too small to generalize but the results are encouraging with respect to collecting data. It is important for this purpose to identify the appropriate level of the company which is able to report. Profiles of the operating structure are essential.

There is a rich variety of accounting and control practices from one company to another and generalizations are dangerous at this stage.

Table 1
Profiling Information for Engineers, Architects, and Other Scientific Services

	# of Firms Profiled	1982 Fee Income ($ millions)	% of Total Industry	Total 1982 Fee Income ($ millions)
Engineers	27	739	33	2,228
Architects	9	47	10	469
Other Scientific Services	10	48	5	1,099

Table 2
Industrial Diversification and Organizational Structure

Industry	Percentage of Enterprises Which Reported Other SIC Activities Structured:	
	By Division or Branch	By Subsidiary
Engineers	60	65
Architects	30	30
Other Scientific Services	30	10

Table 3
Regional Activity and Organizational Structure

Industry	Percentage of Enterprises Which Report Activities in Other Provinces Structured:	
	By Division or Branch	By Subsidiary
Engineers	60	60
Architects	30	0
Other Scientific Services	55	0

Table 4
Participation in Foreign Markets and Organizational Structure

Industry	Percentage Participation	Percentage Participation Through Foreign Subsidiary	Percentage Participation Through Canadian Offices
Engineers	95	65	40
Architects	60	20	80
Other Scientific Services	55	20	80

Table 5
Participation in Joint Ventures by Industry

Industry	Percentage Participation
Engineers	85
Architects	30
Other Scientific Services	30

PART V

SERVICES IN REGIONAL DEVELOPMENT

Service Industries and Regional Development: Patterns, Theory and Policy

William J. Coffey
Département d'Études Urbaines
Université du Québec à Montréal
Montréal, Québec

Given the increasing proportion of economic activity composed by services, and given the long-time preoccupation of Canadian policy makers with questions of regional growth and disparities, it is entirely logical to devote a certain amount of effort to investigating the relationship between service activities and regional development. The following comments will attempt to summarize the progress of research on this topic presently being conducted by myself and my colleague Mario Polèse of INRS-Urbanisation. It should be noted that our work on service activities, in general, and the services-regional development linkage predates the present project, having evolved over the last decade.

Any discussion of regional development must include at least two distinct elements: first, the identification or measurement of differences between regions – a relatively neutral topic; second, the consideration of government policies designed to promote development in a given region. The latter is a much more controversial subject, given the lack of agreement among certain academics and policy makers over the desirability of government intervention in the area of regional disparities. The following remarks will largely emphasize the first element, although the concluding section will raise issues concerning the relationship between service activities and regional policy.

My comments will address four sets of topics: (1) some general issues, (2) empirical (inductive) aspects of the research, (3) conceptual (deductive-theoretical) aspects, and (4) the future avenues of investigation, largely relating to the policy implications of the preceding three elements.

Before beginning my discussion, however, I must emphasize that, where the subject of service activities and regional development is concerned, location is the principal consideration: where are services located, and why are they located in such a manner? In my view, it is particularly important to emphasize this spatial viewpoint, given the tendency of the vast majority of the other presentations in this workshop to ignore or to avoid this issue. This disregard of one of the principal characteristics of the real world is an inherent danger involved in assembling a research group largely composed of orthodox economists.

General Issues

At the risk of appearing pedantic, it will be useful to identify four issues concerning the role of service activities in regional development:

1. *The Nature of Service Activities*

The concept of "the service sector" is an ecological fallacy. Service activities are highly heterogeneous in terms of their growth rates, growth stimuli and constraints, capital and human resource utilization rates, and the nature of their employment characteristics (income, job satisfaction, part-time/full-time work).

2. *Basic vs. Non-Basic Services*

It follows that, in a regional development context, it is necessary to distinguish between those services that respond primarily to local demand (residentiary services, largely involving final demand) and to external demand (tradeable services, largely involving intermediate demand); naturally, there is some degree of overlap between the two. In the language of economic base theory, the former are non-basic and follow from the growth of other activities, while the latter are basic, representing an important source of economic growth for a city or a region. The previous remarks of some of my international trade colleagues notwithstanding, there is a convincing body of theoretical and empirical justification for regarding exports (beyond the boundary of a region) as essential to the economic well-being of a region. The location of residentiary services is a relatively trivial question, being mainly a function of population and per capita income; the resulting pattern is the familiar central place hierarchy. The location of services that are driven by external demand is a much more interesting question, and is the focus of our research. The problems of measuring these flows and of identifying the channels through which they occur has already been well documented (Coffey and Polèse 1987C). What makes this latter category interesting is that, relative to residentiary services, it should in theory be characterized by a high degree of locational flexibility or footlooseness. As we shall see in the following section, however, this is not necessarily the case.

3. *Measuring Service Activities*

For a wide variety of reasons (Coffey and Polèse 1987B), the use of output measures is conceptually superior for measuring services. In practice, however, especially where the locational dimension is concerned, this presents considerable difficulty. Employment data must therefore be utilized.

4. *Identifying Services*

The use of economic sectoral classifications (e.g., "producer services") tends to underestimate the extent of service activity employment. For example, if we examine Canada's goods producing sectors in 1981 we find that between 25 and 35 per cent of this "productive" employment is really service employment (Coffey 1987).

Empirical Aspects

The empirical portion of our work uses employment and occupational data from the 1971 and 1981 censuses. These data reflect 72 detailed sectors of activity and seven occupational groups which may be aggregated in various ways (e.g., into a "producer services" category). Further, the data are available at a very fine spatial scale, which permits them to be geographically aggregated, on the one hand, into the traditional provincial and multi-provincial regions and, on the other hand, into spatial units that reflect both position in the urban hierarchy (population size) and distance from a major urban centre. In our view, the distribution of services over the latter system of spatial units is a far more important question than their distribution across provinces.

Table 1 presents 1981 location quotients for a set of 10 service categories across a set of 10 region types (which completely exhaust Canada). A location quotient is a measure of the concentration of an activity in a region, relative to its degree of concentration in the system as a whole. A value of 100 indicates that the concentration of a given activity in a given region is equivalent to the concentration of that activity in Canada. Values below 100 indicate that the degree of concentration is below that of the system "benchmark," while those above 100 indicate a higher degree of concentration than the system as a whole. It may be seen that, in general, residentiary services (e.g., consumer services and retailing) tend to have relatively flat profiles – they are relatively evenly distributed across regions – while the more export-oriented services (e.g., producer services and finance, insurance and real estate (FIRE), which also experienced the highest growth rates) tend to be highly concentrated in the largest urban areas. This general pattern reflects the fundamental question where services and regional development are concerned: to what extent are the so-called "propulsive" services, those capable of stimulating a region's growth, able to be decentralized away from large urban centres (or their immediate suburbs)? Our evidence suggests that the propensity for decentralization of these activities is rather small.

In general, then, the empirical portion of our work is descriptive; it is aimed at acquiring a better understanding of the locational characteristics of service activities in Canada, and of changes in locational tendencies between 1971 and 1981. This descriptive portion of the work is not, however, an end in itself. Rather, it is an intermediate step in attempting to understand and to assess the role and potential of service activities in the area of regional development. The example presented here represents only a brief summary of what is revealed by a rich and complex set of data.

Conceptual Aspects

On a conceptual level, our research has sought to identify the factors underlying the observed locational characteristics that have been briefly sketched above. An understanding of these factors is essential in order to assess both the degree of locational flexibility of various types of service activities and the prospects of regional policy for influencing the observed locational pattern.

A considerable body of conceptual work has already been amassed in the area of high order traded services (Coffey and Polèse 1986, 1987A, 1987C). In brief, we have argued that a high order service firm will seek to minimize a cost function composed of three principal elements: complementary business services, human resources, and the cost of communicating (delivering) output. The former two elements represent externalized and internalized inputs, respectively, and the possibility of factor substitution exists. The use of externalized inputs is in large measure a function of the degree of non-standardization and unpredictability of demand. The value of the cost function, and of its specific elements, will vary with location. Each high order service establishment is thus subjected to three locational pulls: towards centres characterized by diversified complementary business services; towards centres with specialized pools of skilled labour; and towards the market for its output. Some locations combining two or more of these attributes will enjoy a major advantage in attracting and retaining high order service firms. It is worth noting, in particular, that head offices of large corporations are important purchasers of producer services. We should then expect head office locations to largely define the points of market pull.

Policy Issues

The remaining portions of our research will attempt to synthesize the inductive and deductive streams outlined above, with a specific view towards examining the implications of our findings for regional development in Canada. Again, it is worth emphasizing that the location of services is our principal concern. A number of important policy issues arise from the work already completed, and will be examined more closely in the remaining stages of research. Among these are the following:

1. What has been the effect of the rapid growth of service activities upon regional disparities in Canada? Have recent shifts in economic structure affected the spatial distribution of employment and the corresponding levels of well-being between regions?

2. Is there really any flexibility in the location of high order growth-inducing services? The existing pattern is one of centralization, largely based upon the externality effects of large urban areas. To what extent is it possible to break out of the present hierarchical arrangement, to decentralize these activities to "lagging" regions? In particular, what has been (and will be) the effect of technological change upon locational flexibility?; is its effect, as some argue, to increase flexibility (to promote decentralization) or, rather, to reinforce patterns of centralization?

3. A related question is one of whether it is appropriate to attempt to initiate regional development policy explicitly involving service activities. Historically, regional policy in Canada has largely been directed towards the primary and secondary sectors. Can we expect that regional policy in the

area of services will be effective? Obviously, it will be so only if high order services manifest a certain degree of locational flexibility. Further, even if a degree of flexibility does exist, such policy will need to be much different from that aimed at primary and manufacturing activity. The environment of the individual worker would appear to be a more important focus than the environment of the firm, the latter approach being generally manifested in infrastructure and capital subsidies.

4. Finally, there is the "chicken or egg" issue of which comes first: producer services or the firms that they serve. That is to say, are producer services attracted to areas where there is a demand for their output, or are various types of firms attracted to areas that are already endowed with producer services? Operationally, could the establishment of a threshold level of high order services induce economic growth in a region? Recent British regional policy has taken this approach, but it is too soon to determine if the initiative has been a success.

TABLE 1
Location Quotients
Employment by Sector and Region Type[1]
Canada 1981

	Sector									
Region Type[1]	Trans-port	Com-munic	Util-ities	Whole-sale	Retail	FIRE[2]	Non Profit	Con-sumer	Pro-ducer	Public Admin
300,000+	108	117	98	116	100	127	97	105	140	103
100,000-300,000	84	106	98	93	108	102	124	106	85	120
50,000-100,000(c)	66	76	110	81	114	72	107	103	68	94
50,000-100,000(p)	134	116	99	110	121	82	104	116	73	98
25,000-50,000(c)	77	74	128	83	111	68	110	100	52	92
25,000-50,000(p)	96	113	127	82	117	73	110	102	60	101
10,000-25,000(c)	63	63	72	76	110	61	109	91	49	116
10,000-25,000(p)	96	98	88	63	114	62	116	97	62	119
<10,000(c)	94	60	87	83	87	57	85	83	43	75
<10,000(p)	102	62	113	64	86	45	92	84	27	89
Growth Rate (%) Canada 1971-81	32	52	48	58	49	76	46	68	138	35

Notes:

1. (c) and (p) refer to central and peripheral region types, respectively. The former are within 100 kilometers of a large urban area (100,000+ population), while the latter are beyond this radius.
2. FIRE = finance, insurance and real estate.

References

Coffey, W. J. 1987. "Structural Changes in the Canadian Space-Economy, 1971-1981." In *Still Living Together: Recent Trends and Future Directions in Canadian Regional Development*, ed. by W.J. Coffey and M. Polèse. Montreal: Institute for Research on Public Policy.

Coffey, W. J. and M. Polèse. 1986. "The Interurban Location of Office Activities: A Framework for Analysis." In *The Canadian Economy: A Regional Perspective*, ed. by D. Savoie. Toronto: Methuen.

Coffey, W. J. and M. Polèse. 1987A. "Intra-firm Trade in Business Services: Implications for the Location of Office-Based Activities." *Papers of the Regional Science Association*, 61 (forthcoming).

Coffey, W. J. and M. Polèse. 1987B. "Modelling Service Activities: Some Conceptual and Operational Issues." *Environments*, 19, 1.

Coffey, W. J. and M. Polèse. 1987C. "Trade and Location of Producer Services: A Canadian Perspective." *Environment & Planning* A, 19, 5.

Discussion:

Regional Development

Moroz to Coffey:

I was wondering whether you are treating producer services as a propulsive element of the economy, or as a non-basic element?

Coffey to Moroz:

A little of both, really. Compared to consumer services or retailing, it is definitely more propulsive.

Moroz to Coffey (follow-up):

There is, in regional economies, a phenomenon I like to call the basic/non-basic reversal phenomenon in which the non-basic sector is built up to such a degree that it can then substitute for the basic sector in that economy. Toronto would be a classical example. If you're thinking of the regional development aspect of the service sector, I think you might be wise to concentrate on the non-basic activities, because once there is that agglomeration of basic and non-basic services catering to an internal market, various exporting services can then be substituted. Toronto again is a classical example. What it now exports to other provinces or abroad is very different from what it exported 30 years ago, because it has built up that non-basic sector which can service all these activities. My fear about your approach is that by treating producer service as propulsive, you are, in a sense, redoing growth poles, and I'm not sure there is any evidence that this will work.

Coffey to Moroz:

I don't disagree with you, Sandy. It is a very fuzzy area.

Moroz: (invited by Dobell to comment on the relevance of general equilibrium models to research on the service sector)

The export and trade data for the service sector is very thin. Where it does exist, it is either based on very early surveys, or compiled from a number of diverse sources, with the result that estimates of elasticity, prices and other necessary information are all lacking. These are treated residually within the model, which solves some problems with regard to the general equilibruim part of the modelling, but doesn't address the policy analysis aspect. I should add that Rick Harris is interested in this problem, in particular how to get around the substitute *versus* complementary nature of services both in the production and the import/export sectors of the economy. We're all waiting for Stats Can to fill in a lot of the blanks. . . .

Watson to Coffey:

I'm wondering about the population category in your table, and the figure "300,000+." How big does that get? I would think that you might want to treat Toronto and Montreal separately.

Coffey to Watson:

These are just generalizations. We do have individual data for approximately 400 municipal units, so we can look at special cases individually. These are just general figures for the purposes of looking at overall patterns.

Watson to Coffey:

When you do look at special cases, do you find that the same conclusions hold?

Coffey to Watson:

Well, if you compare Toronto and Montreal, for example, the very obvious difference is that, between 1971 and 1981, there was a vast exodus of the FIRE and producer services sectors from Montreal, largely because of political and language issues. Montreal lost a lot of ground, which it is now beginning to make up, but I think that it will probably be at a permanent disadvantage as a result of this exodus.

Determining Connections Between Tradeable Services and Regional Economic Performance Through Basic Data Sources

Ken Norrie
Department of Economics
University of Alberta
Edmonton, Alberta

My colleague Mike Percey and I have been involved in the IRPP project in which we have attempted to determine connections between volumes and types of trade in services, and relative regional economic performances. Our terms of reference provided that we were to achieve this by exploiting the data available on the interprovincial flow of trade provided by the Input-Output Division of Statistics Canada.

Casual perusal of the type of data provided appears to indicate substantial variation in exports of services by provinces, suggesting that there may be some fundamental economic forces at work. This variation, however, is purely a statistical artifact. Due to the way in which these data on trade in services are assembled, they are not useable for the purpose of our study. Since these data are often referred to by researchers, apparently unaware of these problems, it is worthwhile explaining them here.

The type of interprovincial trade flow data available from Statistics Canada involves two kinds of tables. The first is a provincial trade flow matrix in which the provinces and territories are listed in both rows and columns. Each cell entry represents the dollar value of shipments of a particular commodity between any pair. Reading down a column indicates where the supply of that product for that province originated.

The second table provides the same data in another format. The row entries are now the commodities, while the columns remain provinces or territories. Each cell represents the flow of one commodity from a particular province to each of the 12 possible destinations. Reading down a column shows how much of each commodity each destination receives from the province featured.

Many of the entries in these tables are equal to zero, for one of two reasons. In many instances, there is simply no trade in particular goods between some pairs of provinces, even though they are tradeable in principle. In other cases, the products are non-tradeable; all production is for the local market, or all consumption must come from internal supplies. In the first table, this is represented by non-zero entries in cells in which the horizontal and vertical axes are occupied by the same province. In the second table, only the relevant column entries would be non-zero.

There are eight examples of the second type of commodity in the Statistics Canada data – all of which are services. They include: services incidental to mining; residential construction; non-residential construction; repair construction; retail margins; imputed rent for owner-occupied dwellings; operating, office, laboratories, and food; and travel, advertising, and promotion. Eight service industries appear to ship outputs interprovincially and even internationally. They include: transportation and storage; communication services; other utilities; wholesale margins; other finance, insurance, and real estate; business services; personal and other miscellaneous services; and transportation margins.

The basic data source from which all published interprovincial trade-flow data derive are tables similar to those described above, but containing much greater detail. Not all of the data contained in the tables, however, represent survey information; only those numbers for goods production and trade are derived in this manner. No comparable information is collected for the service industries, due partly to the well-known practical difficulties associated with identifying and measuring such output. These data are constructed, instead, using the survey information on goods industries. This can be explained as follows.

Data are collected on production and interprovincial and international shipments of individual goods for each province. These are the numbers which, appropriately aggregated, appear in the trade tables. A ratio is then calculated for each province or territory equal to the value of goods sent outside the province as a share of total goods production. The higher this figure, the greater the degree to which the province in question relies on external markets for its goods industries. A number of 0.30 for Newfoundland, for example, would mean that 30 per cent of that province's total goods output went to other provinces or countries in that year, while 70 per cent was utilized locally.

The next step involves totalling the value of goods each province ships to each of 11 possible destinations – 10 other provinces or territories and abroad – and expressing the figures as a share of total goods shipped externally. For Newfoundland, 0.30 for trade with Prince Edward Island would indicate 30 per cent of Newfoundland's external markets for goods lay in Prince Edward Island for that particular year.

Figures for trade in services are then constructed from these ratios and other information; i.e., for tradeable services, the assumption is made for each province that the ratio of external sales to total production for each tradeable service output is equal to that same ratio for goods production as a whole. If Newfoundland sells 30 per cent of its total goods output externally, for example, then 30 per cent of its tradeable services in each of the disaggregated commodity classes is assumed to leave the province, as well, with 70 per cent being consumed locally. Multiplying the value of the output for each service industry by 70 per cent gives the dollar-value of internal sales.

Shipments outside the province are allocated across destinations in much the same manner. The assumption is made for each province that the share of total external sales of services going to any particular destination is identical to that for total goods shipments. If 30 per cent of Newfoundland's goods shipments outside the province go to Prince Edward Island, then 30 per cent of its external service sales will go to Prince Edward Island, as well, with the remaining 70 per cent going to the other destinations. Multiplying the value of out-of-province sales of each tradeable service industry by 0.30 then gives the dollar-value of shipments from Newfoundland to Prince Edward Island. Transactions with all other destinations are done similarly. These figures are then aggregated to the level represented in the second table.

These data are, thus, clearly of no use in studying connections between tradeable services and regional economic performance. If the researcher could work with the most disaggregated data, correlations between trade in goods and that in services would be perfect. Service-sector exports would follow goods exports exactly. There is variation across provinces in the highly-aggregated data to which one has access, but only because the weights of the different service industries in total output are not the same. Until Statistics Canada is able to provide data on trade in services based on survey techniques, there can be no serious empirical work on service-sector exports and regional economic performance, using this data base.

Dinner Speaker:

Issues in the Geneva Negotiations about Services

Rodney de C. Grey
Consultant
Grey, Clark, Shih and Associates, Limited
Ottawa, Ontario

In this paper, three closely connected issues in the Geneva negotiations on services are discussed. The first is the relative importance of negotiating about restrictions on trade and foreign direct investment in services to services enterprises themselves, and then the importance such negotiations may have in the context of trying to manage the international economic system or systems, or at least trying harder to avoid a major crisis. The second issue is: What is there to negotiate about? Here I wish to reiterate the view that was developed at quite an early stage among officials in Ottawa – that we should negotiate essentially sector-by-sector. The correctness of this view became more apparent as the major negotiating countries formulated their views last fall before sending ministers to Punta del Este. What has been proposed in the way of general, multisectoral, multilateral rules is really not very substantial, except for the difficult and divisive question of dispute resolution – particularly, the scope for potential retaliation. The third subject is: How should we negotiate? On that I prefer to be cautious, as is appropriate for one who is an observer rather than a participant.

Consider first the relative importance of the services negotiations to services enterprises. I would accept that there are some annoying and petty restrictions on traded services and I would accept, too, that there are some restrictions on establishment and some discrimination against foreign-controlled services enterprises, once established, that are largely protectionist in aim and effect. Of course, the services enterprises which think they are adversely affected would like the bureaucrats responsible for foreign economic policy to do something about these restrictions and about particular cases of less than "national treatment," particularly if this can be done in some negotiating forum where the necessary concessions can be found in other sectors. However, some of these restrictions and some of the discrimination identified in the earlier discussions in the Organization for Economic Cooperation and Development (OECD) are either not very important, or have been negotiated away in bilateral confrontations, or could be negotiated away by quiet bilateral diplomacy, in which it would be easier to indicate the potential of applied reciprocity than it would be in a more open multilateral forum in Geneva.

Among the long list of restrictions identified in the preparatory process there are three groups which seem to me to be important.

One is the complex of restrictions and discrimination in telecommunications – that is, in the communications services which transnational corporations in all sectors of activity rely upon. These restrictions on access to markets for telecommunications enterprises are not unrelated to discrimination in the markets for equipment. It seems to me that it is for consideration whether the issue of discrimination in equipment markets might be best addressed in the same negotiating forum as the issue of restrictions and discrimination in services markets.

Second is the complex of restrictions on establishment and the absence of "national treatment" in the financial services sector (or sectors, preferably). Here there are some difficult issues for Canada, but clearly the major issue is the reluctance of the Japanese authorities and, one supposes, the Japanese enterprises concerned, to accept that they must make a creditable show of reciprocity for the other major financial powers (that is, the United States and Western Europe) in regard to the establishment in Japan of foreign-controlled financial services enterprises and in regard to the treatment accorded to such enterprises, once established. Japanese representatives, quite properly, express concern about discrimination against Japanese goods in foreign markets, and about restrictions on Japanese-controlled enterprises; however, as a practical matter, they practise a highly discriminatory policy in regard to exports of goods, based on bilateralism rather than on multilateral rules, and they practise just as much protectionism and discrimination in regard to their domestic markets for goods and for services (including, of course, those delivered by foreign controlled companies in Japan) as the rest of the world will tolerate.

The third group of restrictions on international services activities, which is of economic importance, are the various restrictions in the labour market. Some services activities – such as consulting, engineering, architecture – frequently involve individuals bringing their specialized knowledge to the potential clients in foreign markets. Restrictions on the ability of foreigners to enter the national territory for the purpose of selling their services are restrictions on services trade. In practice, these restrictions take two main forms. One is restriction on the right to practise in a controlled or regulated profession (accountancy, architecture, medicine, legal services). In Canada and the United States such regulation is often enforced at the state level and by professional bodies which do not necessarily welcome competition for their members. The other types of restrictions are those applied by immigration authorities, applying general rules regarding the rights of foreigners to enter and work in the domestic economy. One tends to focus on these restrictions in the context of the services of so-called "professions." However, there is also the issue of whether countries such as Canada, the United States or France would be prepared to accept the temporary entry of, say, construction workers working, perhaps, for a foreign construction firm. It is not likely that Canada, for example, would be prepared to see a Korean firm build an airport or a pipeline in Canada with Korean construction workers. Yet it is in this sector that developing countries may have services to export. If it seems necessary for the United States, for example, to demand fewer restrictions on the activities of U.S. computer services firms in Brazil, it would be reasonable for Brazil to ask, in return that the United States allow Brazilian construction firms to compete on "turnkey" projects in the United States using Brazilian workers temporarily allowed to enter and work in the United States. It seems unlikely that there is, in fact, great scope for negotiations along such lines, no matter how rational and economically coherent they might be.

To put it moderately, and as politely as possible, one must say that it is not clear that these complexes of restrictions on services trade and investment are best negotiated by trying to evolve general rules, and in a multilateral, multisectoral forum. The onus of establishing that that approach will be productive is on the proponents of the proposition, primarily American services industry representatives and American government representatives. They have not, in my view, made such a case in convincing terms. The proposals being advanced by the United States will not really address the realities of restrictions and discrimination in these various services sectors.

Those who are not proponents of the proposition are not, of course, required to prove the negative. But we can point to the inadequacies, indeed, the feebleness, of such efforts as the OECD Invisibles Code, the OECD Decision on National Treatment (of foreign-controlled enterprises) and, more recently, the OECD Ministerial Declaration on Transborder Data Flows (of April 1985) as evidence of how difficult it has been to agree on meaningful rights and obligations in the services area, even between so-called market economies of the advanced, industrialized world. The reality will be addressed by the skillful and, I suggest, quiet deployment of considerations of bilateral reciprocity – although one will have to keep in mind that there would be severe negative consequences in applying reciprocity formulae retroactivity. It would be unfortunate if the United Kingdom and/or the United States were to have to threaten to impose new restrictions on, or to dis-establish, foreign-controlled services enterprises already established in these two jurisdictions. But the name of the game is "reciprocity" – which is essentially a bilateral, not multilateral, concept.

Of course, there are some other petty restrictions, which impose costs on the enterprises affected. But surely we do not need to have a four-year jamboree in Geneva to deal with the discriminatory baggage handling practices of some airport management enterprises, or the tendency of South Korean insurance regulators to favour the friends of the South Korean regime rather than foreign-controlled enterprises. Moreover, now that these negotiations are apparently getting started, there are some questions being asked about whether the interests of the United States, the *demandeur*, would really be served by a determined attack on barriers to services trade. It is reported (in the *Financial Times*, July 2, 1987) that, in a study just published, the U.S. Office of Technology Assessment (OTA) asserts that U.S. services industries could be as vulnerable to foreign competition as have been U.S. manufacturers. The OTA report observes that there is "no compelling justification for the unusually high priority" which the U.S. Administration has given to the Geneva services negotiations. Much the same point was made by Robert Kuttner, writing in *Business Week* (June 8, 1987). He said "... services turn out to mean either banking, where the big advantage is passing to capital-rich Japan, or sectors such as construction engineering or telecommunications, which are closely linked to leadership in manufacturing." We need not necessarily agree with these recent and negative views, but we should recognize that it is evident that there is not a consensus among American economic observers as to the utility of a negotiation about services trade.

Certainly in some services sectors there are other issues which are relatively more important. Given that many services sectors are regulated, it remains that the extent, and legal basis of such regulation as may be agreed, in different jurisdictions, to be necessary, is surely a much more important set of issues. Of course, access by foreigners is an aspect of regulation; foreign competition may be an important factor for regulators (and congressmen, and Japanese bureaucrats) to take into account, but it remains that the definition of a structure of regulation is the central question for many services sectors. We have seen how the debate about airline regulation, for example has developed in the United States. (For Canada, the United Kingdom and France there is the related issue of getting the state out of the ownership of enterprises.) Clearly, some regulations in regard to airlines were unduly restrictive of competition, and there are some distinguished observers, such as Professor Kahn, who have argued that U.S. airline deregulation has, on balance, been good for the U.S. economy. However, there are some observers, with unimpeachable free-market credentials, who have raised serious questions about the impact of deregulation. For example, Felix Rohatyn, in the current (June 11, 1987) issue of *The New York Review of Books*, says:

> We have deregulated the airlines and the resulting price wars did, indeed, lower fares. However, one airline after another is on its way to bankruptcy or to being acquired by another. The result will be a few huge airlines, with questionable financial structures, poor service with possibly higher prices, and worrisome safety factors.

Most international travellers, particularly those who pay their own way, know that the poor service and higher prices illustrate how the industry performs now. As a *Business Week* writer (May 25, 1987) said: "As any passenger knows, air travel has become a nightmare." Surely this situation is more important than some of the governmental restrictions and discriminations against foreign enterprises in the aviation sector.

For the financial sector (or, I would prefer, sectors), important as the question of access to German, Canadian and Japanese markets may be for the enterprises concerned, this is surely a second order issue, as compared to other issues facing the managers of major financial services companies. If I may quote again my favorite banker, Felix Rohatyn:

> Deregulation of the financial markets has resulted in an explosion of private debt (and, I would add, of sovereign debt), unprecedented market speculation, and the sordid abuses in the financial industry that have been coming to light in recent months. Deregulation, as with most things in life, has to be done in moderation; it has been carried too far.

Rohatyn is speaking essentially about U.S. financial markets and the conduct of the American financial services industries. His views are equally applicable in regard to the United Kingdom.

These comments are intended to suggest that, in considering what can be done in Geneva in a services negotiation, we should keep in mind that, whatever industry lobbyists may assert, the issue of access to markets for some major services sectors is not really a first order issue, even to them. But we should also look at the proposition from the public policy point of view. Governments (that is, ministers, legislators and bureaucrats) have a responsibility for the management of the international economy which is not the same as the responsibility of the managers of corporations which is, it is said, to direct their operations in the interest of shareholders.

In the context of managing the world economy, the issues raised by the enthusiasts for a services negotiation in Geneva are surely not of great importance. It is not difficult to set out more important issues. One evident issue is how to achieve more effective economic policy coordination between the major economic powers. Another is whether and how to introduce some discipline over the mass of liquid assets sloshing about in financial markets, which distorts exchange rates, impacts negatively on investment decisions, and makes the development of trade relationships more difficult. Another is how to cope with the overhang of sovereign debt without producing a banking crisis. Yet another is how to bring into better balance government receipts and expenditures in certain major economies. Yet another is how to finance the renewal of infrastructure in the major industrial economies. These are some of the important economic issues which should be keeping ministers of finance, prime ministers and presidents awake at nights.

The Geneva trade negotiation is clearly a side show, and even in that side show the negotiations about services is surely not the major issue. A much more important issue is how to open the markets of the advanced industrialized countries to the potential exports of manufactured products from developing countries other than Taiwan and South Korea, and how to keep them open. It is only if this is achieved that there will be the necessary flow of investment in new facilities in those countries. An even more important issue is how to reduce subsidization and produce some rules for trade in agricultural products. When you look at the absolute failure of the trade policy system to provide a meaningful set of rights and obligations for such trade, you should ask why services industries spokesmen are so eager to go to Geneva. A more interesting issue in the Uruguay Round is how to provide, in the trade policy system, for more effective protection of intellectual property rights. And, narrowing the focus to the trade policy system, properly speaking, there are the two interrelated issues which are not likely to be addressed: How to bring the contingency protection system – which is in practical terms, a protectionist system – under control, and how to introduce, or rather, reintroduce, competition policy considerations into trade policy. All the indications are that the thrust of negotiations, as regards these two issues, will be to refine, rather than to discipline, the protectionist impact of so-called trade remedy laws. If that is the case, the results of Uruguay Round may well be protectionist, and I use the word in its fully pejorative sense. In the context of the overall framework of the Uruguay Round, the negotiation about services restrictions is clearly not a major matter – and that this would be the case has been clear enough for long enough that one wonders why U.S. representatives applied so much leverage to get it agreed that services would be discussed in the next room.

I should now like to move on to the second of my topics: what there is to negotiate in regard to services. It seems to me that, insofar as general rules are concerned, there are really only two issues – everything else is sectoral, not general. One issue is how to make restrictions on trade and investment in services public and then potentially negotiable in subsequent rounds ("transparency" and "negotiability"). How this can be done is another matter. The second issue is that of making the possible exchange of rights and obligations meaningful, in a contractual sense; this is the issue of how disputes are to be addressed and what are to be the sanctions for breaches of the negotiated contract. In my view, this is, for developing countries (and perhaps even for Canada) the crucial issue in the services negotiations. If the United States, for example, pays a developing country for the removal of some restriction, real or potential, on U.S. services export activities, by reducing a most favoured nation (MFN) tariff rate on some industrial good, or binding a preferential rate of duty on such a good, then it follows that, as provided for in U.S. legislation as recently revised, the United States could withdraw that concession on goods if the concession in the services sector was "nullified or impaired" (to use the language of GATT Article XXIII). At present, there is no GATT provision which allows a GATT tariff concession to be withdrawn as retaliation for the denial of a benefit in regard to services trade. It seems not unreasonable to assume that an objective of the U.S. services industries, and the U.S. negotiators, will be to get concessions on goods and concessions on services into one single agreement. The United States' ability to protect its services industries exports (including the right of U.S.-controlled corporations in other countries to "national treatment") will be buttressed by a right, under a procedure analogous to or incorporated in Article XXIII, to withdraw concessions on goods.

There is no very evident reason why developing countries should put their feet to the fire in this fashion, given that concessions on goods are, in any event, substantially conditioned by the deployment of the contingency protection system. There is no very evident reason why Canada should support any U.S. proposals to this effect, even though it is perhaps the case that Canada would be less at risk in such an expanded system than developing countries. Do we really want a system in which Canadian builders of rail cars or producers of lumber or textiles can be put at risk because of restrictions on access to our markets, for example, for U.S. stockbrokers? (These comments on the Canadian interest assume, of course, that we will not be completely opting out of the multilateral system through a bilateral accord with a Reagan Administration, much as some Canadian and American economists would like to believe that Canadians would be better off under such a continentalist regime.) Judging by what happened in the period leading up to Punta del Este, we should expect that the United States will apply great pressure, in the main bilaterally, to achieve an "integrated" dispute settlement system. Our domestic sectoral interests, and, perhaps more important, Canada's interests as a nation which cannot opt out of the world economy, dictate that we should not support the United States (and the European Community and Japan, in the end) in any attempt to aggrandize its trade relations bargaining power in this fashion. The implications of this trade policy issue for relations with the developing countries of our hemisphere, let alone with developing countries elsewhere, seem to me to suggest a very cautious approach to dispute settlement as a services negotiations issue. (In saying this, I do realize that I am parting company from those Canadians who believe or who act as though they believe, that the totality of Canadian foreign economic policy should be trying to get closer to the United States.)

We have been discussing what the negotiations may be about. I have suggested that making restrictions public and potentially negotiable is one issue, and that dispute settlement, and the associated system of sanctions is the other. There is one other possible general issue, which, I hope, if it is raised, will be deeply divisive: that is the issue of remedies for "unfair trade" practices. It has been suggested in the United States, but not, we should be clear, by the Administration, that the anti-dumping provisions and the countervailing duty provisions, and the other provisions regarding "unfair trade" (e.g., Section 337 of the Tariff Act) be extended, as is Section 301 of the Trade Act of 1974, to the services sector. The OECD trade committee has said that this would be desirable but impractical. This is a thoroughly perverse assessment. Given the skill and well-paid inventiveness of the trade bar, I suggest that it would be quite practicable to apply the anti-dumping provisions to dumped services imports, or to apply the countervailing duty provisions to subsidized services imports – but that it is clearly highly undesirable. We need to reform the contingency protection system, not extend it to other areas. Of course, there are unfair trade practices in the services area, but these might be better dealt with under more general Article XXIII-type procedures, in which the views of the international community would be sought before, rather than after, the application of a sanction or a remedy. (This complex of issues is of course, almost bound to arise; one text proposed by the United States in regard to services, for possible agreement at Punta del Este did make explicit reference to "unfair trade" practices.)

We should turn to the third issue I suggested: How are these issues to be negotiated? It should be evident from the general trend of my remarks that there may not be much that is useful, not much that is trade creating, that increases welfare, flowing from the attempt to negotiate general, multisectoral, multilateral rules about traded services. Indeed, much that may be agreed may lead to negative, perverse, protectionist results. However, the reality of restriction can be addressed in sectoral negotiations, where the detail can be addressed. It is reported that the U.S. team is preparing a detailed draft agreement for the telecommunications services sector. In a paper I prepared for the Atwater Institute, and then published by the International Institute of Communications in *Intermedia* (April, 1987) I set out how a GATT-like agreement might be devised for information trade, or as it could be called, traded computer services. The most difficult sectors will be financial services, and here several sector agreements may be feasible. But in this area the essential issue is achieving a reasonable measure of bilateral reciprocity in regard to establishment and national treatment – though "mirror-image" reciprocity for each country is virtually impossible. But to understand how the U.S. proposal has developed it is important to understand that for the financial services sector there have been no detailed sector institutions, such as the International Civil Aviation Organization (ICAO) and the International Air Transportation Association (IATA) for the air transportation sector. The arrangements regarding insurance transactions appended to the OECD Invisibles Code do not really fill this role for this sector; in particular, they do not provide for sanctions for non-compliance, nor do they involve developing countries.

I suggest there is one lesson we can learn from the Tokyo Round in regard to these negotiations. That is, that if we take an OECD agreement – which is not always drafted in precise language, and which provides unsystematically for derogations but not for sanctions – and if we take such an agreement into a GATT-like framework, as we did with the OECD draft agreement in procurement, we may be able to evolve a workable agreement. One could consider taking the OECD Decision on National Treatment, with all its derogations, reservations, observations, to Geneva, and turning them into scheduled, agreed, lists of exceptions to national treatments. The Canadian list will be long, but we will not be alone. This process will involve, necessarily, a standstill on restrictions in services trade, and will involve putting the restrictions, if not onto the table, at least into an agreed schedule. That is the first step toward making restrictions potentially negotiable. Such an effort will, I suggest, subsume some of the drafting effort that has gone into the annexes to the OECD Invisibles Code.

I had proposed to be relatively cautious about the last topic: How to approach the negotiations, the technique of negotiations. That, therefore, concludes what I have to say about my three topics: the relative importance of negotiations, what to negotiate about, how to negotiate. Perhaps I may be permitted to add a sort of epilogue: What are Canadian interests and how can they be advanced, or at least secured?

As a great trading nation we have an interest in allowing the negotiation process to be a stabilizing factor in trade relations, although we have perhaps paid too much in the past on this account. Moreover, if our major trading partner, through its domestic political process, concludes it should urge negotiations about services, it is difficult for us to stand aside or be nay-sayers. In any event, it is too late for Canadians to oppose putting services on the Uruguay Round agenda, even though we may sense that the results may be negative. The U.S. Administration argues that by enlisting the services industries in favour of negotiations as a process it is creating a new domestic coalition of interests supporting the creation of international trade relations rules, rather than international dog fights about trade relations. We may be skeptical about this political judgement. But it is very awkward for Canadian representatives to second guess U.S. representatives about the U.S. domestic political process, although U.S. representatives have often been quite wrong on such matters. We really have no choice but to accept the stated U.S. view. Having got this far, there is our overriding interest in not allowing a major trade negotiation to too obviously fail or collapse. I was always of the view that the Tokyo Round was, for Canada, essentially a defensive negotiation and the results were, in some major aspects, negative or illusory. However, there has never been any shortage of commentators asserting that there was a positive achievement of "liberalization." By the same token, we shall need to be able to say that the Uruguay Round is a success: that is our interest.

Whether this applies to the services negotiations, as such, it is to early to say. We should recall that there have been two major GATT trade negotiations (the Kennedy Round of 1963-1967 and the Tokyo Round of 1973-1979) in which negotiations in one sector that the U.S. (and Canada) asserted were absolutely essential – that is, in agricultural trade – produced little by way of positive results. The same may be the case for services in the Uruguay Round. If so, it will be in part because in the U.S., as we have noted, the necessary domestic consensus, in detail and depth, has not been created, nor is there really an effective international consensus, despite the detailed and, broadly speaking, useful work of the various OECD committees which have addressed services issues. Discussion in Paris has created a consensus among bureaucrats, but not in legislatures or among the larger business community. It may be that the services negotiations will produce little more than flatulence, but without collapsing the trade negotiations as a whole. The damage done by yet another failure in the agricultural sector would be much greater. These are early days, and it would be silly to do more than guess at a range of results. But it is clear that for Canada it would be potentially costly if the Uruguay Round as a whole collapsed; it would be the medium and smaller trading countries which would inevitably suffer the fallout, not the big players.

Finally, I should note that, obviously enough, Canada's interests and, indeed, Canada's role, in the services negotiations in Geneva will be affected by the outcome of the so-called "free trade" negotiations. The United States perceives that Canada stands to gain a lot in the goods sector – that is, access to a large market – and that the United States, in the goods sector, will gain relatively little. The United States will therefore expect substantial Canadian concessions in the services sectors, including concessions on establishment and national treatment. On the Canadian side, we should be clear whether what we want is merely unrestricted access to a large market or whether we want that access plus preferences against third countries. If we want that, we must be prepared to give the United States a preferential position in our markets, including, importantly, our services markets. If we want preferences, in regard to trade in goods or trade (and investment) in services, we shall have to pay a great deal. That prospect will, no doubt, sharpen our perception of where our interests lie in the various services sectors and, whatever happens in the "free trade" discussions, it will help us define our objectives and our tactics in Geneva.

PART VI

TRADE IN SERVICES: EMPIRICAL BACKGROUND

Consulting Engineering and Real Estate Management and Development Services: Some Preliminary Considerations Concerning Trade and Location

Mario Polèse
INRS-Urbanisation
Montréal, Québec

Introduction

We are examining two industries: consulting engineering, and real estate development and management. These should not be seen as case studies, as such, of either industry. Rather both studies are set within the broader framework of IRPP's mandate of looking at trade and location issues. We have selected consulting engineering and real estate management as two "typical" cases which have the potential of shedding further light on interregional and international service trade, and thus, also on location factors for business services. Equally we link into the work on services and regional development addressed by William J. Coffey.

Why choose these two industries? First, these are sectors for which Canada would seem to have a positive trade balance with the rest of the world. For engineering consulting, it would appear on the basis of Statistics Canada data that Canada is a net exporter. For real estate services, no official trade statistics are available. However, on the basis of previous studies at INRS, and from the initial data we have already gathered, it would seem that the Canadian property management industry has a positive trade balance with the rest of the world. On the basis of such preliminary data, largely drawn from

---

I should like to thank Julie Archambault, Marcel Gaudreau and Roger Verreault, of INRS, for their invaluable assistance.

annual reports, we may assume that rental income from foreign properties paid to Canadian firms is today somewhere in the order of $1 billion. Large Canadian firms, such as Trizec, Cadillac-Fairview, Olympia and York, etc., have become household words in the United States. If one walks through the downtown of many American cities, one has a high likelihood of walking on properties which belong to a Canadian developer.

These two industries are equally of interest from a locational perspective, and therefore in terms of regional development issues. This is a tale of two cities. The real estate story is very much a story of Toronto and, perhaps, of some Western cities; the engineering consulting sector, at least the major success stories in terms of exporting, is very much a Montreal story or a Quebec story.

For each case study, we hope to address four broad questions which may be summarized as follows: (1) How do firms or regions develop specific competitive advantages in these two sectors? On what competitive advantages is success in these sectors based? (2) How are services in these sectors traded? It follows that the existence of a competitive advantage will in principle lead to trade, both internationally and interregionally, (3) Why Canada? Why has Canada become, at least for the moment, a net exporter for these services, and (4) Why particular regions within Canada? In essence, summing up the four questions, what do these two sectors teach us about the creation of competitive advantage and trade in services? Finally, these sectors are interesting in terms of public policy since, and this is still a hypothesis, the structure and the success of both of these industries are in part the conscious or unconscious result of public policy.

Consulting Engineering and Property Management: A Rapid Comparison

Let us rapidly examine several issues central to the study of all business services, suggesting how each of the two sectors compares.

Defining the Service Product

Much has already been said about the problems of defining services. Consulting engineering and real estate management are again interesting in this respect because they raise very different problems, representative of the service sector as a whole. In the case of engineering, we are dealing with a "typical" consulting service. The firm is basically exporting know-how, techniques or advice. The service product is typically very heterogeneous or unstandardized, a characteristic common to most consulting services. Since the service is in general embodied in labour, it also raises the issue of service factor trade. To be traded, a consultant generally has to move, even though the service can sometimes be disembodied in the form of reports, blueprints, etc.

The definition of real estate development and management service raises more complex conceptual problems. We suggest that it is more than simply exporting capital, where the value of "exports" is then simply measured by the returns on capital (in the forms of dividends, profits or interest). Canadian real estate companies with land, housing or other projects in Los Angeles or Dallas are competing with other firms. When they eventually succeed in completing a development, wherever it may be, it is not only because they have superior access to capital, but also because they generally have superior techniques, designs, management, concepts, etc. One need only to look at the shopping centres which have been designed, or the downtown mixed-use complexes put together by these real estate firms, to realize that one is selling more than capital. What, then, is the service which is being traded? And how does one distinguish it from capital flows? There are no easy answers to these questions. Because of internal accounting practices and national tax laws, "services" as such will often be lost in capital account items. This certainly does not make matters any easier for Statistics Canada, or researchers like ourselves.

Evolution of the Service Product

The product package seems to be evolving in a similar direction in both cases. The engineering sector is increasingly moving from single line products to complex integrated turn-key projects which imply a wide range of services. In essence, it is often service "bundles" which are being traded. Economics of scope thus take on an increasing importance. In the real estate development sector, one equally observes a growing trend to large integrated projects with a high design content, whether in the case of office buildings or shopping centres.

For both industries, the capacity to provide long-term financing is often part of the bundle of services to be sold to the client. Both industries, in order to function properly, require the parallel existence of appropriate public and private financial institutions with which they must interact. In the case of consulting engineering projects, we are generally talking of public or semi-public financing – via the Canadian International Development Agency (CIDA), for example – while financing is almost exclusively private, via the banking system, in the case of property development projects. In both cases, a complex bundle of capital and know-how is being exported.

Measurement Problems

Measurement problems are not a major issue in the case of the engineering sector. Exports are fairly well identified via data on honoraria paid for consulting services, even though such professional services may cover a wide range of activities. Canadian engineering firms sell almost every consulting service imaginable.

In some cases, equipment purchases or other non-service activities may be mixed in with honoraria paid for consulting services, but this is probably a minor problem. The measurement of "true" exports, however, becomes more difficult when one considers the interference of CIDA or other public funding agencies. Are services purchased by, say, Gabon but paid for by CIDA to be considered as service exports? It is by no means certain that existing data or existing data collecting procedures adequately take account of such interference. This being said, the measurement of trade in consulting services nevertheless remains a fairly straightforward matter.

Real estate development and management is an entirely different matter. Also, since there is no official benchmark which can be used as a guideline, it will be difficult to determine whether our survey results are off the mark. The interference of tax laws and other fiscal regulations becomes particularly troublesome in this case. Whether an industry decides to identify a cross-border flow as dividends, rent, capital gains, service fees, etc., will often depend on existing tax regulations. Existing tax laws may cause certain firms to show no "trade" at all. When added to the problem of distinguishing between returns to capital and payments for services rendered (design, management, etc.), it rapidly becomes clear that the measurement of service trade in the real estate development sector is no easy task. One may well ask, in this case, whether it is statistically possible, or conceptually valid, to distinguish between services and factor payments (returns to capital). In this respect, this sector may be typical of all so-called management services, which in part encompass returns to entrepreneurship and overall decision-making.

How are the services traded?

The trading of engineering services is, in general, easy to visualize; they are traded directly. The client is billed directly for consulting services. In most cases, it is consultants, their advice and reports, which move across national boundaries. Joint ventures are equally a frequent occurrence in the engineering sector.

In real estate development and management services, international trade occurs via more indirect channels. Such "trade", if it occurs at all, generally moves via foreign affiliates and generally follows direct investment activities (in land or buildings).

The implications for barriers to trade are thus quite different. In the case of engineering, if one cannot move people (consultants), one cannot trade in most cases. Engineering services are very sensitive to barriers to migration; immigration laws; work permits; residency permits; income taxes for Canadians abroad, etc. This sensitivity to barriers to labour movements in part explains why Canadian engineering firms are not more active on U.S. markets.

In the case of property management and development, it is a matter of capital mobility: if one can't move money (invest), one can't trade. Barriers to the right of establishment are thus a critical issue in the case of the real estate industry, as are questions related to the repatriation of funds. Taxation of foreign capital gains or rental income are clearly a concern. In both cases, we are dealing with barriers to factor movements: labour or capital. This remains the basic issue facing the liberalization of service trade in general, and these two sectors are no exception.

The Basis of Competitive Advantage

This remains our central question. We have identified four possible elements of competitive advantage applicable to both sectors: (1) superior know-how or technology, (2) superior financial capacity, (3) economies of scope, linked to size and diversification, (4) political marketing skills. The relative importance of each element will be different in the case of property management and consulting engineering. For the moment, we are still at the stage of formulating hypotheses.

Engineers are basically selling know-how. One should thus expect that superior know-how and technology are the primary basis of the competitive advantage for Canadian firms in this field. This, however, raises a conceptual problem since Canadian firms are often, at least so it seems, transferring fairly standardized techniques – we shall not get into the distinction between techniques and technology. Canadian engineering firms do not necessarily invest heavily in research and development. Perhaps the know-how advantage lies in part in public goods (graduates) provided by the educational system. In any case, this advantage, to the extent that it exists, is necessarily embodied in labour.

Staying with the engineering sector, we might expect that economies of scope, financing capacity and political marketing skills would follow in that order. Political marketing, skills, *vis-à-vis* foreign governments and national and multilateral funding agencies, are in part linked to financial capacity. We may consider political marketing skills to be a particular subset of know-how. In any sector where non-market forces are at work, political marketing skills will necessarily be a component of competitive advantage.

In the case of real estate development and management we would be inclined to put financial capacity first. Property development is a highly capitalized industry, involving long-term investments (and risks), and thus, necessarily dependent on the industry's capacity to obtain capital. Links with financial institutions will be of particular importance. It is possible, in the case of this industry, that economies of scope and financial capacity are highly interlinked, banks generally preferring to deal with large developers with known track records (especially since the investments are often of a long-term nature).

The role of know-how should, however, not be underestimated in the case of the real estate industry, even though such know-how is more difficult to evaluate than in the case of engineering. Besides design, architectural and related skills, the success of Canadian real estate developers may equally be related to superior management techniques and, indeed, to their proven skills in putting together appropriate financial packages. Financing and know-how are thus equally linked. Finally, political marketing skills may play a role in dealings with municipal governments and agencies, especially with respect to project approval, zoning changes and building permits. Urban development remains a very regulated environment in North America, although regulations vary considerably from one city to another.

Why Canada? Why Particular Regions?

Why have Canadian firms specifically developed competitive advantages in these two areas? Again, we are still dealing with hypotheses.

For engineering, the growth and success of Canadian firms is largely explained, it would seem, by Canada's geography, its particular resource base, and the need to develop that base with the accompanying public investments in infrastructure. In the case of Quebec, we may mention important public investments in human capital, specifically the École polytechnique, which has produced an impressive crop of engineering graduates. However, it is probably Hydro-Québec's policy of contracting out, plus Quebec's decision to emphasize hydroelectric power, which in large part explains the past growth of Quebec-based engineering firms. Had Quebec, like Ontario, chosen to put more emphasis on the nuclear route, it is unlikely that it would have been as successful in exporting its engineering know-how.

It may also be, in this particular case, that language was a positive factor, giving Quebec-based firms a slight edge on francophone and also Hispanic Third World markets. It remains to be seen, however, how durable these advantages are. Present trends indicate that the Canadian engineering industry is going through a period of relative stagnation and perhaps relative decline. But these are questions which will be addressed in our final report.

The success of the Canadian real estate development and management industry is more difficult to explain, at least *a priori*. It is possible that the competitive advantage of this industry (at least *vis-à-vis* U.S. firms) is in part the indirect result of the regulations and traditions governing the Canadian banking industry. The concentration of the industry, the size of Canadian banks, and the informal network of personal relationships which characterize the industry, in essence, make it easier for Canadian developers to obtain funds than for their American counterparts. The American banking system is more fragmented, banks are generally smaller and relationships are more formal.

The concentration of the financial industry in Toronto, plus the phenomenal demographic growth of the Toronto urban area, helped stimulate the growth of large developers. To this must be added Ontario's tradition in urban planning (zoning, municipal administration, the creation of Metro Toronto) which, we may assume, created a particular know-how in terms of urban planning, design and mixed-use projects, while at the same time stimulating the concentration of the industry (as regulations often do) encouraging the growth of large firms capable of generating economies of scope. Quebec's urban development environment was, until recently, much less regulated, probably explaining in part why that market remained much more fragmented and "competitive," less conducive to the growth of very large firms.

As in the case of engineering, the know-how and technology base is not necessarily unique. Such information and expertise can be learned and transferred. Thus, here also we may ask how durable is the current apparent advantage of Canadian developers on U.S. markets. In the service sector, as in the manufacturing sector, locational factors will shift over time.

Discussion:

Engineering and Real Estate Management and Development Services

Markusen to Polèse:

Up through the 1950s, land development companies didn't really exist. Land development in Canada was largely done by the municipalities. When municipalities moved out of land development, especially in Ontario, construction companies were obliged to move in to fill the vacuum in real estate development. Because this took place in Canada much earlier than in the United States, land development and public real estate companies in Canada developed an expertise in planning integrated projects – from project design to the construction phase. I think this "first mover" advantage is clearly reflected in the dominance of public real estate companies which export their knowledge to the United States.

Polèse to Markusen:

I think this also demonstrates that the competitive advantage our firms have is more or less ephemeral and that, as regulatory structures in the two countries become more similar, this initial advantage is no longer protected as it once was. There is no guarantee that in 20 years time Canadian real estate developers will still have the same importance in the real estate market.

Denny to Polèse:

There were unique opportunities created in the real estate market in Toronto. The property development sector was growing faster in Toronto during a certain period of time than anywhere else in North America. During this period, many firms developed skills and expertise working with various land use regulations. Over time, of course, the Toronto market became less appealing, largely owing to issues such as rent control, and the U.S. market became more attractive to developers. I think then, it was a combination of regulation and market opportunities that permitted Canadian companies to develop their skills. I agree with Mario that their advantages are probably fragile, largely because the market opportunities are no longer here.

Global Financial Developments: Implications for Canada

Thomas J. Courchene
Robarts Professor of Canadian Studies
York University, and
Professor, Department of Economics
University of Western Ontario
London, Ontario

Introduction

Globally, the financial services revolution is in full flight. Financial services are likely the fastest growing sector worldwide and are at the cutting edge of applying advances in computational and telecommunications technology. The implications range from dramatic developments in financial architecture, to the shift from commercial banking to investment or merchant banking,[1] and to the emergence of commercial enterprises as major financial institutions. These and other global financial developments generated intense pressures on national regulatory authorities to bring their financial structures and regulations in line with what is permissible internationally.

To understand fully the pressures relating to domestic financial services reform, I will begin by focusing briefly on some of the factors leading to the development of the "supra-national" financial market which, with some degree of misrepresentation, shall be equated with the Euro-market. The focus then shifts to the series of real and monetary shocks of the last decade and the manner in which international financial markets reacted to these shocks. There has been a virtual explosion of innovative instruments and structures integrating national markets into a global financial marketplace. These developments in the Euro-market have generated substantial problems, even for the financial regulatory regimes of the great commercial powers. For small, open economies like Canada, the message is much less subtle: we catch the wave or the financial services revolution will simply pass us by; the bulk of our institutions will be relegated to a regional rather than a global market. Happily, however, Canada appears to be well on the way to catching the wave.

The Euro-Market and the Internationalization of Financial Services

A. The Internationalization of Finance

Underlying the ongoing pressures toward more uniform financial regulation in the various national markets is what I shall refer to as the "internationalization" of finance; namely, the gradual post-war development whereby financial institutions established branches or subsidiaries outside their home countries. The presence of these foreign banks exerts pressure on domestic policy authorities and regulatory agencies for more uniform laws and regulations across jurisdictions. A second, related aspect is that Canadian governments and large corporate borrowers increasingly have been accessing foreign merchant bankers or securities firms for their new issues. Thus, the pressure on policy makers intensifies because the sheer mobility of financial services tends to undermine any moves in the direction of keeping markets "captive."

B. The Mushrooming of the Euro-Market

A parallel occurrence was the emergence of the Euro-market – the offshore or extra-national market, initially in U.S. dollars but increasingly in yen, marks, and other currencies. While the growth of the Euro-market was driven in large measure by payments imbalances, it was its "extra-national" or "supra-national," and, therefore, unregulated feature that lent it its competitive and innovative qualities. U.S. banks became major Euro-market players largely because restrictive American laws and regulations literally drove them offshore to acquire freedom to manoeuvre. Ironically, while restrictive U.S. regulations propelled the Euro-market, the immense growth and success of the Euro-market and the rising dominance of non-U.S. financial institutions are now undermining the ability of American legislators to maintain these domestic restrictions.

C. Integration of the Pillars

The cornerstone of much of post-war Canadian financial policy has been to maintain the separation, in function and ownership, across the "four pillars" of finance – banking, insurance, trusts, and underwriting (securities). In the Euro-market, financial integration (i.e., one pillar) has been the rule. The internationalization of finance and the mushrooming of the Euro-market have provided many of the world's largest banks with considerably more ability to manoeuvre internationally than in their home jurisdictions.

Global Portfolio Shifts[2]

A. The Energy Shocks

The two energy shocks of the 1970s resulted in a dramatic shift in wealth and income from the oil-consuming countries to the Organization of Petroleum Exporting Countries (OPEC). The resulting payments imbalances were truly staggering. The international financial markets necessarily played a crucial role in the recycling of these petro-dollars. For the world's banks, however, this turned out to be a mixed blessing. The OPEC nations were partial to short-term deposits which, in turn, led to a substantially enhanced role for banks and, relatedly, a dramatic escalation in syndicated loans. The exuberance associated with syndicated loans, however, led to inappropriate risk exposure to Third World borrowers and, in Canada at least, to the oil patch.

B. The Balance of Payments (Macro) Shocks

The macro or balance of payments adjustments resulting from the plunging oil prices complicated matters for the banks. Furthermore, the portfolio preferences of the new surplus nations differed markedly from those of the OPEC nations – emphasis shifted from short-term bank deposits to treasury bonds (i.e., away from bank intermediation and toward capital markets). This contributed to the trend toward investment banking and away from commercial banking. The reduction of the excessive reliance on bank loans by recapitalizing balance sheets also contributed. This inflation cycle was an integral part of the macro shock. The resulting volatility in interest rates and exchange rates was instrumental in the development of interest-rate and currency swaps and financial futures markets, representing yet another factor favouring investment banking over commercial banking.

The Technology Revolution

Computer and telecommunications technology have created a global marketplace where continuous trading is a reality and is exerting pressures on national regulators to allow increased capitalization of financial institutions. It is becoming increasingly difficult and increasingly meaningless to attempt to draw a line between domestic and international transactions. Moreover, the traditional demarcation between the commercial and financial sectors is becoming increasingly blurred as technology redefines comparative advantages in the provision of financial services.

Recapitulation: The Rise of Investment Banking

The forces for deregulation in Canada are inexorably related to those that led to London's "Big Bang," the opening of the Australian financial sector, and the ongoing pressures for reform in virtually all industrialized nations. The thrust, however, derives from the recent developments in the global financial services market.

The first of these related to the internationalization of finance and the growth of the Euro-market, not only in its size and sophistication but, as importantly, also in its unregulated nature. It provided the ideal environment within which the world's major players could react, flex, and innovate when buffeted by global shocks.

The global portfolio shifts and the advances in technology impinged on all financial markets, but it was in the international market where technological advances could be harnessed to their full potential in the pursuit of new instruments, processes, and even structures. Because of its size and sophistication, the international market had to accommodate and recycle massive imbalances generated by successive global shocks. Aided by innovations in computational and telecommunications technology as well as advances in financial technology (swaps, options), these portfolio shifts transferred comparative financial services advantages from commercial banking to investment banking. This shift from bank loans to underwriting facilities as the preferred means of financing enterprises provides the essential link between the development in global finance and the pressures for domestic financial deregulation. Until recently, some version of Glass-Steagall (the separation of banking from underwriting) characterized the regulatory regimes of most English-speaking nations as well as the financial systems of countries like Japan. The critical turning point came when the trend toward investment banking began to permeate national markets. Suddenly the pressures for regulatory reform were no longer containable.

The 1980s: Global Markets in Full Flight

A. The Explosion in Financial Architecture

The Bought Deal: Reaping Economies of Scale. The traditional approach to floating new debt (Eurobonds or domestic issues) was open pricing. But, in 1980, Credit Suisse First Boston pioneered the "bought deal," whereby the financial institution purchases the issue at a pre-set coupon and bears the distribution risk. The impact is that the role of the underwriting institution becomes one of "principal" rather than "agent" in the transaction.

Several characteristics of the bought deal merit attribution. First, the driving force was not so much technology but the existence of adequate capitalization and distribution capacity in order to handle the accompanying risk. Thus, the computative edge would go progressively to the more highly capitalized foreign securities firms and merchant bankers at the expense of relatively undercapitalized domestic securities firms. The existing structure, particularly the capital structure, of the Canadian industry could not long be sustained. Second, the timing and price advantages associated with the bought deal are clearly attractive to the issuers. Third, "competitive bidding" emerges where borrowers ask competing financial institutions to submit bids for a bond issue. Not only does this encourage a move toward investment banking, it tends to erode the longstanding relationships that traditionally existed between a commercial enterprise and its banker. Fourth, the bought deal enhances efficiency: well-capitalized intermediaries are surely better able than issuers to diversify distribution risk. Finally, the bought deal is not technically innovative.

Options and Swaps: Responding to Volatility. Interest- and exchange-rate volatility of the early 1980s led to two highly innovative types of instruments: options and swaps.

An option "is a contract conveying the right, but not the obligation, to buy or sell a specified financial instrument at a fixed price before or at a certain future date" (BIS 1986, 61). The demand for interest-rate options by corporate and institutional investors was largely as insurance against rising interest rates. The constraint on the development of options was the ability of the underwriting institutions to price and hedge options contracts adequately.

Swaps are financial transactions in which two parties agree to exchange payment streams over time according to predetermined rules. There are basically two types of swaps: those that convert floating-rate obligations to fixed rates and *vice versa* (interest-rate swaps), and those that convert debt raised in one currency into a fully hedged liability in another (currency swaps). Their appeal is that they can be used to obtain low-cost financing and high-yielding assets, to hedge interest rate or currency exposure, to implement and enhance short-run asset/liability management strategies, and to speculate (BIS 1986, 43). Swaps also have enhanced the attraction of bonds *versus* loans as a source of corporate finance, thereby contributing to the trend toward investment banking. Finally, swaps have the impact of arbitraging over regulatory regimes.

Note Issuance Facilities (NIFs). "Note issuance facilities" are medium-term arrangements provided by financial institutions under which borrowers can issue short-term paper in their own name. Their advantage, apart from the lower cost, is that NIFs provide great flexibility in sourcing funds. This short-term market appears to be evolving from a Euronote market (backstopped by NIFs) to a true commercial paper market (not backstopped by NIFs).

An Analytic Approach to Innovations. These new instruments can be classified into three conceptually distinct types: (1) risk-transferring innovations allowing economic agents to transfer among themselves the price or credit risks inherent in financial positions (all of the above), (2) liquidity-enhancing innovations increasing the transferability or "moneyness" of existing assets (NIFs and securitization), and (3) credit-generating (or market-access-enhancing) innovations widening access to markets (swaps).

B. Disintermediation

The highest quality borrowers are turning to the capital markets and away from bank credit as the source for their funding. This is a move in the direction of financial disintermediation – a move from intermediated credit (commercial bank credit) to direct credit (international securities markets). The world's major banks have reacted by first joining the march toward direct financing in the sense of becoming major issuers and purchasers of securities as well as arrangers and managers of these new securities issues; and second, assuming a prominent role in the development of a sophisticated range of financial innovations. This has enabled direct financing across a much wider array of financial instruments and national currencies and shifted the banks' income sources from interest income to fee income, reflecting their new comparative advantage.

In many cases, banks have become leaders rather than followers in terms of the move toward direct finances. In the international environment, most of these commercial banks are merchant bankers, i.e., investment bankers. The problems arose in the domestic context (at least for Canada and the United States) where the banks had much more regulatory difficulty in following their corporate clients as they joined the march toward direct finance. Securitization compounded these problems.

C. *Securitization*

Securitization, the financial buzz word of the latter half of the 1980s, refers to the increasing tendency for credit to take the form of negotiable instruments (e.g., securities) rather than non-negotiable instruments (loans). I have labelled this phenomenon as "disintermediation," or the shift to investment banking from commercial banking. Although a significant advance in financial technology, securitization leads to a blurring of the distinction between financial instruments since there is little difference between a securitized loan and a security. This, in turn, leads to a blurring of the distinction between banks and securities dealers.

This generates a substantial pressure on deposit-taking institutions. In the process, they are also finding out that fee income or off-balance-sheet income (e.g., back-up facilities such as bank guarantees, letters of credit, and revolving credits; liability management for clients; and securitization) is a more profitable activity than is balance-sheet income.

D. *The Rise of In-House (Corporate) Banks*

The role of major consumer lenders in the securitization process leads rather naturally to the rise of corporate banks. Crabbe (1986, 24) lists several reasons for this development. First, the credit status of the companies served by their treasury departments is now better in some instances than those of banks. Second, a growing number of corporations have large amounts of cash on hand, so that the treasury operations can now become very significant profit centres for their corporations. Some of the more innovative Euro-market activities can be traced to these corporate banks.

These initiatives pose a double problem for the banks. First, the corporate banks are playing an increasingly important role in the global marketplace. Second, the U.S. banks are experiencing a declining market share at home, which erodes the base on which their international activities are supported. The national financial authorities are under tremendous deregulatory pressure. The banks are generally in the forefront of these reform movements, focusing on acquiring the ability to integrate the commercial and investment banking functions, i.e., the ability to operate domestically with the same degree of freedom and flexibility available in the international marketplace.

Even though Canada's approach to financial deregulation appears to be considerably more in tune with the international environment than is the American approach, what happens in the United States with respect to these issues is clearly of importance to Canada and to Canadian regulatory agencies.

E. Recent U.S. Financial Developments

The accepted view in the United States is that Glass-Steagall's days are limited. It appears that it is more honoured in the breach than in the observance. In large measure, this reflects recent Federal Reserve decisions to allow certain banks to underwrite and deal in municipal revenue bonds, mortgage-backed securities, and commercial paper, and to underwrite and deal in a new type of security called consumer-receivable-related securities (collectable debts such as car purchase loans to individuals and personal credit card accounts). If Glass-Steagall goes, the McFadden Act (prohibiting interstate banking) will probably fall as well and this may spell problems for the 14,000 U.S. banks. Thus, the regulatory agencies, particularly the Federal Reserve, are taking the lead in proposing financial reform.

The Corrigan Report. In early 1987, Gerald Corrigan, president of the Federal Reserve Bank of New York, published a position paper (*Financial Market Structure: A Larger View*) proposing a move in the direction of integrating underwriting and banking (i.e., integrating the pillars and, therefore, striking down Glass-Steagall), but preserving the distinction between banking and commerce (i.e., preserving the 1956 Bank Holding Company Act prohibiting non-banking companies from owning banks). Essentially, the pressures emanating from the international financial market are forcing U.S. authorities to reconsider their long-standing regulatory principles.

The Japanese Ascendance and the Gould Proposal. Thirty years ago, the list of the world's largest banks read like a "Who's Who" of American banking. Not so today. Of the 25 largest banks, ranked by market value, 14 are Japanese (including most of the top 10); only two are American. Moreover it seems clear that, 10 years from now, if U.S. institutions are going to be among the few world-class players, they are going to have to have a very large base in the United States. The latest U.S. response to all of this has come from George Gould, the Treasury Department's top banking official. His proposal is that the United States should aim to create five to 10 "superbanks," each with assets roughly double those of Citicorp. In order to provide the multibillion dollar pools of investment capital needed for such an initiative, several regulatory changes would be required: (1) removing Glass-Steagall, (2) allowing interstate banking, and (3) eliminating the Bank Holding Act, i.e., allowing commercial capital to flow into the banking sector.

Neither the Corrigan nor the Gould proposals are as yet before Congress, so it is premature to forecast the likely outcome. For what it is worth, however, my own view is that some version of the Gould proposal will prevail: Congress will be brought on side when faced with losing control of global financial markets to the Japanese.

Conclusion

These international pressures have a direct impact on Canadian regulatory authorities. They also have powerful indirect impact when the arguments are taken up by the chartered banks, which are losing domestic ground to the trusts, conglomerates, and merchant bankers. Their plea is a familiar one – to have the freedom domestically that they have in the Euro-market. A second group in favour of deregulation includes the users of financial services. Canadian commercial enterprises desire the type of access to world markets and world-class institutions that heretofore was the preserve of the likes of Alcan, CP, and Bell Enterprises. Opening up Canadian financial markets will give them far greater access to the range of innovative financial instruments and techniques elaborated above. Individual investors will tend to benefit as well. The final group of domestic advocates are the regulatory agencies themselves. The choice is one of catching the wave or being relegated to overseeing regional markets comprised of regional players. With respect to this last point, it is appropriate to reflect upon the lessons for Wall Street emanating from London's "Big Bang":

> It has rammed home two points. First, that Wall Street is losing business to London because it is only a half-free market. Second, it shows that the competitiveness of some of America's firms in the global market is being undermined because they are not allowed complete freedom at home (Wood 1987, 25).

If this applies to the United States, it holds in spades for Canada.

Notes

1. For the purposes of this analysis, commercial banking is defined as the combination of deposit-taking and loan-making that is traditionally associated with the chartered banks. Investment banking is defined to include underwriting and brokerage functions as well as the provision of financial advice. Merchant banking is a combination of the two – investment banking plus the commitment of capital for months at a time. Under Glass-Steagall type provisions (i.e., the separation of commercial banking and investment banking) it is normally the investment bankers that have the ability to engage in merchant banking.

2. This section draws from de Vries and Caprio (1986).

References

Bankers Trust Company. 1986. "The International Swap Market" *Euromoney* (January Supplement).

Bank of International Settlements. 1986. *Recent Innovations in International Banking* (Basle: BIS Publication).

Citicorp/Citibank. 1986. *Banking on Investment* (New York: Citicorp Investor Relations).

Corrigan, Gerald. 1987. *Financial Market Structure: The Larger View* (New York: Federal Reserve Bank of New York).

Courchene, Thomas J. 1986. "Some Perspectives on the Future of Banking." *Fraser Forum* (Vancouver: The Fraser Institute).

Crabbe, Matthew. 1986. "Inside the New In-House Banks." *Euromoney* (February): 24-41.

de Vries, Rimmer and Gerald Caprio. 1986. *World Financial Markets* (New York: Morgan Guaranty Trust).

Freedman, Charles. 1987. "Aspects of Securitization", paper presented to the First Canadian Conference on Securitization (Toronto, 18 November). Mimeo, Bank of Canada.

Hindle, Tim. 1986. "Topsy-Turvy: A Survey of Corporate Finance." *The Economist* (June 7): 1-36.

Hirsch, Fred. 1969. *Money International* (Middlesex: Penguin Books).

McFetridge, Don. 1987. "The Effects of Concentrated Ownership and Cross-Ownership on the Stability and Efficiency of the Financial System," forthcoming in an IRPP Conference volume on Mergers, Corporate Concentration and Corporate Power in Canada.

Nash, Nathaniel. 1987. "Treasury Now Favors Creation of Huge Banks." *New York Times* (June 7): 1.

Rosenblum, H. and D. Siegel. 1985. "Competition in Financial Services: The Impact of Non-Bank Entry," In *Proceedings of a Conference on Bank Structure and Competition* (Chicago: Federal Reserve Book of Chicago).

Stevenson, Merril. 1986. "The Consumer is Sovereign: A Survey of International Banking." *The Economist* (March 22): 1-68.

Stevenson, Merril. 1987. "Survey on International Banking." *The Economist* (March 21): 1-70.

The Economist. 1986. "Big Bang Brief: London's Euroboom" (August 23): 60-61.

Wood, Christopher. 1987. "Wall Street: A Survey." *The Economist* (July 11).

Discussion:

International Finance

Bodkin to Courchene:

Are you also looking at Canada's competitive advantage in banking from the perspective of the companies, whether domestic or foreign, who are seeking capital?

Courchene to Bodkin:

Yes, it seems to me that they will be the principal beneficiaries of recent developments in banking. The types of services that world-class companies would have had in the past will be available to a much broader spectrum of companies in the future. It seems to me that both Canadian issuers and depositors will benefit from this. The implication, of course, is that the financial sector, from being the most protected sector in Canada, is going to become one of the least protected ones, and as a consequence, the profit margins in the securities industry will shrink. Clearly, we are going to see some restructuring, and a realigning of the existing firms in Canada.

PART VII

TRADE IN SERVICES: LEGAL, INSTITUTIONAL AND NEGOTIATING ISSUES

Towards an Approach to Negotiating Rules on Trade in Telecommunications and Information Services

---

Daniel M.A. Roseman
Deputy Director, International Economics Program
The Institute for Research on Public Policy

The United States has lobbied heavily in recent years for the negotiation of internationally agreed and binding rules on a number of so-called "new" areas that have not traditionally been covered by trade agreements. The "new" issues include services, investment and intellectual property. Key among the various services sectors, because of its function as the nervous system and arteries of the world economy, are telecommunications and information (TI) services. Special efforts will be made in the context of GATT, and elsewhere, to develop a system of international rules governing the provision of these services. This note identifies some of the key items that would need to be addressed in negotiations on TI services.

Coverage

It will be necessary, in the context of preliminary analytical work and pre-negotiations, to define the parameters of TI services negotiations. What services are we talking about? Which services can be opened to competition? How should they be opened to competition. Are we talking about liberalizing cross-border trade[1] in these services or more broadly in terms of freer market access (liberalization of cross-border trade, liberalization on the basis of commercial presence, and international direct investment)? If the latter, it will probably be necessary to define market access in specific terms with respect to the way a particular service or class of services is marketed.

One would need to define boundaries between competitive and non-competitive services. It is not clear to what extent concepts such as basic/enhanced and bearer/teleservices would be useful in a broad multilateral context (as opposed to a bilateral context or negotiations among a limited number of countries with similar regulatory systems). Perhaps the network/network-based services distinction permits more general applicability. This may necessitate the discussion (in the context of a trade negotiation) of related issues pertaining to the network/customer premises boundary. The latter issue takes on increasing importance in the context of Integrated Services Digital Networks (ISDN).

A further issue affecting the parameters of possible negotiations on TI services will be the sensitivities in many quarters regarding the content of international information flows (i.e., privacy and national security concerns). Traditional regulatory policy has maintained a distinction between content and carriage (i.e., the provision of access to telecommunications services). Given that content restrictions can have major trade implications (e.g., Dresser/Siberian pipeline affair), one can anticipate both content and carriage being dealt with in a TI services negotiation.

A key element in determining the coverage of an agreement is an assessment of the interests at stake. After all, the decision to negotiate is a political decision based on an assessment of perceived benefits and costs. Trade policy has been primarily concerned with the interests of producers (often manufacturers); their ability to compete in domestic and export markets usually determines whether a particular country's trade policy regarding a specific industry or product is liberal or protectionist. U.S. negotiators see services negotiations acting "as a stimulant for a process of balancing the interests of users, suppliers and regulators, where ultimately users' interests will predominate."[2]

With services (and telecom and information services in particular) which, for the most part, are intermediate products that are inputs to a longer chain of economic activities and which are expanding greatly in response to technological innovation and the needs of large users, the argument can be made that the interests of users should prevail or at least be taken into account to a greater extent than they are at present.

In an agreement on telecommunications and information services, one needs to balance the interests of the users, the carriers, the enhanced service providers and a lot of other people. One needs also to assess the impact of an agreement on the socio-economic status quo as presently "safeguarded" by Canadian Radio-television and

Telecommunications Commission (CRTC) decisions and Department of Communications (DOC) policies. In particular I am getting at the impact on disadvantaged groups and regions and on the carriers' ability to earn a reasonable rate of return in the context of the current tariff structure. Also, a caveat should be entered regarding the impact of an agreement on the integrity of domestic telecommunications networks (the quality of service and the ability to ensure universal service). Moreover, there should be a Canadian interest in using these negotiations to position ourselves in international marketing terms as a high technology country confident in its ability to progress collectively by developing and applying the latest technologies, rather than as a hewer-of-wood and drawer-of-water. Such positioning would, of course, need to be backed by appropriate domestic policies.

There are at least two other considerations that impinge upon the scope and nature of an agreement on telecom and information services:

1. Trade negotiators should focus on something that is not so difficult and technical that the regulators take over. At the same time, trade negotiators should not ignore the regulators who, after all, possess considerable sectoral expertise. Nor should trade negotiators seek to enter into agreements that short-circuit the due process of the regulatory and policy-making processes (public hearings, meetings of federal/provincial communications ministers, etc.). That the negotiations should accelerate the regulatory and policy-making processes would be a welcome outcome.
2. An agreement should be evolutive; i.e., it should foster, rather than constrain, the development of this dynamic and important sector. An agreement must allow room for our domestic policy-makers to catch up with technological and economic reality and to decide what type of environment is desired for our industries. In negotiating an international agreement on telecommunications and information services, one must take care not to create new rigidities that would inhibit the processes of technological and market innovation which have made TI services of such vital importance to businesses and to countries wishing to participate effectively in the international economy.

Ultimately, the coverage of an agreement – like the decision to negotiate – is a political decision based on an assessment of perceived benefits and costs, not all of which are economic or capable of being captured by our economic models. Part of this political calculus must be an assessment of whether it is possible to obtain a satisfactory balancing of benefits (of gains and concessions) among the negotiating parties in a specific sector or in a broader negotiation where trade-offs can be made across sectors, with the gains or concessions in one sector possibly being offset by concessions or gains in another or in others.

The Application of Trade Concepts

Trade negotiators envisage the application in the services area of a number of principles and practices that have developed over the years with respect to trade in goods. The binding nature of an agreement on telecommunications and information services will depend on the way in which these principles and practices are written in the form of contractual rights and obligations. The key principles are:

- *Transparency and Notification:* All barriers (in the services area, these are generally regulations) would be explicit and any changes in barriers would have to be notified; "governments should give affected parties an opportunity to comment on regulations and a right to appeal against unjustified provisions."[3] The regulatory processes in each country would be open to persons from the two countries (users, as well as carriers, enhanced service providers, and others).
- *National Treatment:* All domestic laws and regulations that are not notified as trade barriers would have to apply equally to domestic and imported services. The national treatment principle is intended to provide for non-discriminatory market access by all companies, whether domestic or foreign. However, national treatment does not always ensure market access. As mentioned earlier it is necessary to define market access in specific terms with respect to the way particular services are marketed.
- *Market Access:* Market access can be opened by three means (liberalization of cross-border trade, liberalization on the basis of commercial presence, and international direct investment); market access needs to be defined in specific terms with respect to the way a particular service or class of services is marketed.
- *Public and State-Sanctioned Monopolies:* A major U.S. concern in services negotiations, particularly in the telecommunications sector: ". . . public monopolies should maintain an arm's length relationship between their public monopoly and their involvement in competitive markets. This means that a public monopoly should not use its

monopoly position to disadvantage a foreign competitor in the international arena or in domestic commercial activities outside of the monopoly mandate."[4]

- *Consultation and Dispute Settlement:* Rules would need to specify to what extent disputes would be handled through local remedies – regulators (Federal Communications Commission, CRTC) and the courts – and to what extent through joint inter-governmental institutions.

There are other principles that would need to be addressed in an agreement, but those are the basics.

In the context of transparency and notification of all barriers, it is important that each country's sovereign right to regulate be recognized. Principles must be established as to which kinds of regulation are acceptable or unacceptable (health, safety, public morals, national security, etc.); otherwise we risk having intergovernmental disputes every time a company finds that its ambitions have been crimped in some way by a particular regulation. The compilation of laws and regulations in terms of such principles as those mentioned above, would greatly facilitate the negotiation of meaningful exchanges of concessions as between governments.

Observations Regarding Eventual TI Services Negotiations

- *Basic Telecommunications Services:* It is unlikely that many countries would agree to permit international competition in the provision of basic services (especially voice), because very few permit even domestic competition at present. Therefore, if an agreement were to provide for national treatment regarding future changes in laws and regulations, a derogation from the national treatment principle or sector exemption might be necessary for basic services. This would permit the opening of the basic services market to competition by domestic firms, without extending the opportunity to foreign firms. If, however, it were agreed to permit international competition in certain basic services, transitional arrangements might also be agreed that involve the phasing-in of competition among domestic firms ahead of foreign entities, in those countries (such as Canada) where domestic competition is limited.
- *Other TI Services:* One could consider a limited approach conferring national treatment on foreign companies for the provision of other TI services, with or without ownership of

> transmission facilities: establishment (or commercial presence) could, for example, be on the basis of leasing, resale and/or sharing of inter-exchange services and on the basis of ownership, leasing, sale and/or sharing of intra-exchange systems; non-establishment could entail the negotiation of connection agreements between companies of one party and the other (e.g., Bell's Datapac connects with Tymnet). Market access would also require a "right to connect" as well as a "right to access information" stored on one side or the other of the border. Other restrictions on the provision of TI services by foreign-owned entities (e.g., by means of radio spectrum allocations) would need to be addressed, as well.

When considering national treatment in TI services, it is uncertain how and to what extent certain countries with federal constitutions and two-tier regulation of telecommunications services could commit themselves. In Canada, for example, the federal government could bind itself with respect to those companies and territories coming under federal (CRTC) jurisdiction. That would represent the most important markets in Canada. How would the Maritime and Prairie provinces be brought in to an agreement? In the United States there are, no doubt, practices at the state level that would restrict competition in intrastate TI services. How likely is Washington to try to impose its powers over the states under the commerce clause, if a dispute arises with another country? In the European Community (EC), which is moving towards a common market in telecommunications, a TI services trade agreement entered into by the commission with the approval of the Council of Ministers could conceivably be impaired by restrictions at the member state level, unless the EC obtains clear paramountcy over the national governments in this area.

With respect to monopolies, U.S. demands create pressures for policy harmonization, in addition to those pressures generated by technological change. In the Canada-U.S. context, one can make the argument that, since both Canadian and U.S. regulatory regimes address the monopolies issue in a manner consistent with national standards of business ethics, and since U.S. anti-trust laws are unstable, as regards their application, this question and others relating to competition, can best be dealt with under existing domestic laws and regulations. However, the initiation of disputes by U.S. firms and the referral of such disputes to bilateral dispute settlement procedures will likely increase pressures for convergence between national regulatory regimes.

A major consideration for Canada in telecommunications and information services negotiations (especially in bilateral ones with the United States) is whether we wish to achieve a preferential arrangement. It would seem, however, that if we are prepared to open the TI services market at all to increased international competition, then there is no point in discriminating against other countries and closing ourselves to advantages that freer trade with others may procure. As an alternative to preferences, and in order to protect ourselves against free riders who may wish to gain access to our market without reciprocal liberalization at home, a conditional most-favoured-nation approach is advised.

Notes

1. It will be necessary also to address the traditional (i.e., PTT) argument that telecom services are not traded, rather merely interconnected. (Cf. OECD, ICCP(85)12, pp. 17-18, 34-35.)

2. Geza Feketekuty, Office of the U.S. Trade Representative, speaking at Atwater Institute conference, Montreal, November 4, 1986.

3. G. Feketekuty and J.D. Aronson, "Meeting the Challenges of the World Information Economy," paper commissioned by the Atwater Institute, October 1986, p. 23.

4. Geza Feketekuty, "Negotiating Strategies for Liberalizing Trade and Investment in Services". In *Trade and Investment in Services: Canada/U.S. Perspectives*, ed. by Robert M. Stern (Toronto: Ontario Economic Council, 1984), p. 209.

Economic Issues in Negotiating Trade in Services: Canadian Interests

Murray G. Smith
Director, International Economics Program
The Institute for Research on Public Policy
Ottawa, Ontario

Trade in services raises difficult metaphysical issues for what Rodney Grey calls the trade relations system. Services trade among most countries now takes place largely outside a framework of multilateral rules and agreements. Furthermore, Canada is distinctive among the major industrial countries in that it does not participate in bilateral investment or Friendship, Commerce and Navigation treaties.[1]

In Canadian-U.S. trade this situation is remarkable, since the value of bilateral traded services, as distinct from investment income in the current account, amounts to about one sixth of the value of bilateral merchandise trade (and services trade may be systematically underreported). To the extent that services trade is restricted by the policies of either government, its relative significance could increase if barriers were reduced as part of a bilateral agreement. The significance of barriers to trade in services extends beyond the effects upon service transactions, because such barriers can often restrict trade in goods as well.

Extension of GATT rules to cover services trade has been identified as a high priority in the new round of multilateral trade negotiations, notably by the United States, but also by the other industrialized countries, including Canada. Thus efforts to negotiate arrangements with respect to services trade in the Canadian-U.S. trade talks, could be a precursor to the GATT negotiations. The issues raised by efforts to extend GATT rules to services trade have been considered by a number of analysts.

Economic Welfare and Trade in Services

The commentaries by Jim Melvin and Jim Markusen at this conference suggest that the gains from trade thereoms derived with respect to commodity trade are robust and apply to services trade as well. Open international markets will lead to exchange based on comparative advantage. In particular there is a strong presumption that free trade in producer services will benefit a small open economy. The merchandise trade account may be a misleading indicator of revealed comparative advantage, however, because payments for trade in services may be reported as factor payments. I was reflecting on the difficulty of explaining this proposition to U.S. Congressmen obsessed with the U.S. trade deficit, but perhaps we can assume that Canadian policy makers are more sophisticated.

A potentially serious qualification to the analytical results of Melvin and Markusen might be obtained from the new strategic trade and industrial policy literature.[2] The profit-shifting hypothesis suggests that a small country can improve its terms of trade by imposing tariffs on imported differentiated products. Perhaps this analysis may explain why successive generations of Canadian trade negotiators have tended to regard the Canadian tariff as a scarce national resource which must be carefully husbanded.

I am skeptical about the general validity of some of the policy conclusions suggested by this new strategic trade and industrial policy literature, but this analysis may have special relevance to services industries of particular interest to Canadians – the cultural industries.

Cultural Industries

The traditional economic rationale for government policies to support cultural activities rest on what is called a merit goods argument. Essentially, the argument involves a judgment that certain types of cultural activities are of value to society and thus it is desirable for the government to subsidize the maintenance of symphony, ballet and theatre companies, because those cultural activities are socially redeeming and uplifting. Yet, the activities of high culture which receive such subsidies are not likely to be bilateral trade issues either now or in the future. These high cultural activities are consumed locally and seldom create international frictions. There may be similar problems in Canada and the United States in terms of funding these activities in an era of government restraint but there is hardly much rivalry between these two countries in this regard.

As representative of Canada's cultural industries have pointed out, what we are talking about is the cultural and communications industries broadcasting, film production and newspaper, magazine and book publishing. Thus, we are talking about business interests, but the question is do these business interests serve broader social purposes?

There is a newer and more sophisticated rationale which I believe applies to Canada's cultural and communications industries. Essentially the argument that can be derived from the strategic trade and industrial policy literature is that if two assumptions hold:

1. that the differentiated goods or services produced by an industry are strongly preferred by the home country
2. that there are significant fixed costs and constant marginal costs involved in producing a particular good or service in these industries

then there are grounds for small economies to protect or subsidize those activities.[3] The reason is that in the absence of such support policies fewer home goods and services will be produced and the social welfare of the community will be reduced. There are no production gains from free international trade in the form of economies of scale involving declining marginal costs, and the consumption gains associated with greater aggregate consumer choice are offset by the negative consumption externality resulting from fewer home goods and services.

In my view, this specialized set of assumptions has some validity for Canada's cultural industries. The fundamental question is in the smaller Canadian market, how many TV and radio stations, how many magazine and book publishers, and how many film producers, can survive? It might come as a surprise but there is an economic argument that Canadian welfare can be improved by subsidizing or otherwise supporting these types of activities.

What policies are involved?

There are few conventional trade issues at least in a sense of trade in goods, in the cultural industries. Canada does impose tariffs on records and briefly reintroduced a tariff on books as part of the dispute over the U.S. imposition of duties on Canadian shakes and shingles. In addition, Canada's postal rates subsidies for magazines printed in Canada probably contravene the national treatment clause of the GATT. But aside from these matters very few trade issues in the traditional sense arise in the cultural industries.

Many of the issues that arise in the cultural industries involve questions of trade in services or closely related investment issues. Some would suggest that the United States regards the very existence of the CBC as a subsidy which should be dismantled in order to create a level playing field. Although people in Washington are deeply attached these days to their perception what constitutes a level playing field, none has suggested that the United States seriously seeks to attack either the CBC or any other subsidy program in the cultural area. Similarly, I've yet to encounter serious concern about Canada's content requirements in the television and radio broadcasting.

One issue which does affect both broadcasting and the magazine publishing industry in Canada, is the issue of Bill C-58, which denies Canadian firms advertising on U.S. media the right to deduct those advertising expenditures from their income tax. Since its inception, Bill C-58 has drawn fire in the United States.

Another set of issues between the two countries involve questions about intellectual property rights. The most contentious issue involves the substitution of Canadian commercials for those of U.S. channels, when programs are shown simultaneously on cable systems in Canada. Another issue in this area is that Canada's Cancom satellite rebroadcasting system does not pay copyrights on distant signals rebroadcast to remote centres or small cable systems throughout Canada.

A third set of issues involve policies towards investment. The most contentious policy in this area involves Canada's announced policy of requiring divestiture of firms in the book publishing or film distribution industry when parent firms are subject to acquisitions. As long as this policy stands future Prentice Hall cases could arise at any time as a result of takeover activity in the United States or in Europe.

Thus, the cultural industries pose some unique problems for Canada in responding to proposals to negotiate rules for trade in services.[4] Canadian sensitivities and economic welfare considerations in the cultural sector, however may not warrant blanket rejection of proposals to remove barriers to trade in services, whether in bilateral or multilateral negotiations.

Barriers to Trade in Services

The most explicit barrier to services trade consists of laws or regulations that discriminate against or prohibit service transactions with foreign firms. Extending the GATT obligation of national treatment to services would help to reduce or prevent such barriers. Allowing firms to establish subsidiaries, giving them right of establishment, is also necessary in order to liberalize trade in some service sectors, since the sale or provision of services frequently requires a local presence.

Some of the concerns about policy harmonization arise from a misunderstanding about what negotiations on a free trade association involve. The key concept in the GATT – which is extended in application in the free trade agreements – is the principle of "national treatment." This principle allows the two countries to have widely divergent domestic policies. Under a national treatment obligation, a country undertakes to ensure that foreign and domestic producers will be subject to the same laws and regulations in its domestic market. There is no requirement that foreign producers receive the same treatment abroad as they receive in their home market. Yet many of those who worry about pressures for political or economic union assume this complete harmonization of domestic policies between the two countries will occur.

Although commitments to national treatment and right of establishment in service industries would remove most explicit barriers to trade in services, differences in domestic regulatory issues can create actual or perceived barriers to trade. The dismantling of barriers to trade resulting from regulatory policies will inevitably require sectoral negotiations which are likely to be protracted.

Intellectual property issues are an example of problems that arise from differences in national regulatory regimes that are consistent with national treatment. In one controversial case, the Canadian policy of compulsory licensing of pharmaceutical patents does not discriminate between domestic and foreign holders of patents and thus is consistent with national treatment. But since almost all drug patents are held by foreign firms, compulsory licensing creates international frictions.

Another related issue pertains to business travel and employee mobility. Although immigration as such is not an issue in the negotiation of a free trade area, impediments to business travel and the temporary assignment of employees to work in the other country can serve as a barrier to merchandise trade as well as to trade in services. For example, the services of a firm's technicians may be essential to install or to service a specialized piece of machinery. Thus a barrier to temporary immigration can serve as a barrier to specialized services, which in turn serve as a barrier to exports of goods.

The form of a bilateral agreement on services is likely to parallel the approach taken in the U.S.-Israeli agreement, but one might expect U.S. services firms and some Canadian firms to seek an agreement that binds government policies to a greater extent. This could be achieved by negotiating a framework agreement embodying the principles of national treatment and right of establishment, which could be implemented by subjecting specific service industries to these obligations.

Progress in this regard has been limited to the U.S.-Israeli agreement. Some service industries could be designated for inclusion in the free trade agreements immediately, while others could be designated for continuing discussion and eventual inclusion. Still other service industries, such as cultural industries in Canada and those subject to national security considerations in the United States, could be excluded from the services agreement, at least with respect to right of establishment. The issue of right of establishment is essentially an investment issue.

Investment Policies

Two very distinct sets of issues arise in negotiations about policies affecting direct investment. The first set of issues pertains to policies that influence business decisions about procurement, production, and trade. These are often referred to as trade-related investment issues.[5] The second set of issues involves the effects of policies on direct investment by firms.

The Canadian government has used, and continues to use, its screening of foreign firms investing in Canada to oblige those firms to meet broadly defined criteria for economic performance in such areas as job creation, research and development, procurement, investment, and international trade. A GATT panel finding on the practices of the Foreign Investment Review Agency, now known as Investment Canada, established that Canada could not require foreign firms to reduce their imports of goods. Since neither services nor export performance requirements fall within GATT's purview, however, Investment Canada obtains such performance commitments. A key objective of the United States in the bilateral trade negotiations is to obtain a Canadian commitment to refrain entirely from imposing import or export performance requirements on either goods or services of firms with investments in Canada.

Beyond those trade-related investment issues are the issues associated with the policy treatment of direct investment. Different levels of international obligation regarding direct investment policies could be embodied in a bilateral agreement, and indeed different sectors could be subject to different types of obligations.

The first level of obligation about investment policies involves a commitment to national treatment; both domestic and foreign firms would be treated the same under tax and regulatory systems. This commitment would not preclude continuation of a policy of screening new investments or acquisitions by foreign firms, but it would rule out discriminatory treatment of foreign firms once established.

If Canada could agree to a national treatment obligation in the cultural industries, excluding the provision of subsidies, than this would not alter any of Canada's other investment policies in the cultural industries except for the new policy with respect to indirect acquisitions in book publishing and film announced a year ago by the Mulroney Government.

A second level of obligation involves a commitment to "right of establishment," allowing foreign individuals and firms to establish a new business in a country. Such a commitment does not prevent the screening, or indeed prohibition, of acquisitions of existing business operations by foreign firms. The Investment Canada legislation, which came into effect in 1985, facilitates the establishment of new businesses except in the case of culturally sensitive areas, but there are no formal international commitments by Canada that this practice will continue.

Of course, both countries could continue to designate sectors where right of establishment is denied. For example, in Canada foreigners cannot own radio or television stations or newspapers; similarly, in the United States aliens are denied the right to own radio stations under the Broadcasting Act of 1934. In Canada these restrictions are rationalized on the basis of cultural considerations, while in the United States they are justified on the grounds of national security. Both countries probably will wish to retain these types of exclusions.

A third level of obligation involves permitting foreign firms to dispose of their operations without being subject to review by a special screening agency such as Investment Canada. (The United States has a monitoring agency – the Committee on Foreign Investment in the United States – but it does not screen foreign investments.) If foreign firms had a right to sell or "right of exit," then domestic firms are likely to seek equivalent treatment, since foreign firms would have better than national treatment. The result of permitting right of establishment and right to sell could be that Canadian regulation of direct investment would shift from discretionary screening of foreign acquisitions across all sectors to screening of only key sectors. Review of mergers and acquisitions in open sectors would continue, however, under Canada's new competition legislation.

Many Canadians are reluctant to agree to liberalization of direct investment because of concerns that the high level of U.S. ownership of Canadian industry adversely affects Canada's economic performance and that the level of foreign control might increase further if the screening mechanism is dismantled. Yet screening of foreign investment by the Canadian government creates an "incumbency effect" for foreign multinationals now operating in Canada; that is, the policy encourages foreign firms to maintain existing Canadian operations which they might otherwise be inclined to sell and discourages establishment of new operations by foreign multinationals not already operating in Canada.[6] This perverse effect is not widely understood, however. Politically, Canada may be just as reluctant to liberalize policies toward direct investment as the United States is reluctant to limit the application of trade remedy laws.

Conclusion

I would expect that Canada would seek to exempt cultural industries from any commitment to right of establishment that is negotiated for trade in services. I do not believe that this would be a particularly contentious issue since the United States also prevents aliens from owning radio stations, satellite communication systems, shipping lines and other types of businesses on the grounds that those enterprises, if foreign owned, would constitute a threat to national security. Each country has a distinct rationale for these policies. Canada argues these policies support cultural sovereignty while the United States refers to them as national security but there is room to find common ground in this regard. Denial of right of establishment would mean that Canada could continue to screen or to prohibit any new proposals to establish film distribution or book publishing or other cultural business here in Canada and we would maintain the existing high level of Canadian ownership in the broadcasting magazine and newspaper sectors.

Although Canadian concerns about the protection of the cultural industries appear to have an economic justification, the negotiation of agreements liberalizing trade in services and investment in less sensitive sectors may be in Canada's economic interest. In the conventional parlance of trade negotiatiors, Canada may be making "concessions" by entering into such agreements, whether bilateral or multilateral, but the benefits may accrue largely to Canada.

Notes

1. There are a few limited exceptions to the general proposition that there are no international agreements governing trade in services between Canada and the United States. Coverage of services issues under multilateral arrangements is tenuous and limited. There are consultative arrangements under the voluntary OECD guidelines, and the Tokyo Round agreement on trade in civil aircraft also deals with services related to aircraft repair. Although there are bilateral agreements such as that pertaining to civil aviation services, Canada is not a signatory to a friendship, commerce, and navigation treaty with the United States. The United States does have such treaties with a number

of countries, including West Germany and Japan, and the provisions of these treaties do apply to services trade.

2. See R. Lipsey & W. Dobson, *Shaping Comparative Advantage* (Toronto: C.D. Howe Institute, 1987).

3. A. Venables, "Optimal Tariffs for Trade in Monopolistically Competitive Commodities." *Journal of International Economics*, Vol. 12(34), May 1982.

4. See, for example, William Diebold, Jr., and Helena Stalson, "Negotiating Issues in International Services Transactions." In *Trade Policy in the 1980s*, ed. by W.R. Cline, pp. 581-609; and Grey, Trade Policies in the 1980s.

5. See Harvey E. Bale, "Trade Policy Aspects of International Direct Investment Policies," in R.E. Baldwin, ed., *Recent Issues and Initiatives in U.S. Trade Policy* (Cambridge, Mass.: National Bureau of Economic Research, 1984), pp. 67-100; and A.E. Safarian, "Trade-Related Investment Issues." In *Trade Policy in the 1980s*, ed. by William R. Cline (Washington, D.C.: Institute for International Economics, 1983). pp. 611-37.

6. Murray G. Smith, "Canadian-U.S. Trade and Direct Investment: Substitutes or Complements?" paper prepared for the North American Economics and Finance Association meeting, December 30, 1985.

Discussion:

Negotiating Trade in Services

Grey to Smith:

I have four points to make. On the subject of the International Trade Organization (ITO), what they had to say regarding investment was slim, in my opinion, and it's difficult to imagine what might have developed around those provisions had the charter come into effect. What they had to say on the subject of restrictive business practices was somewhat more substantial; it is interesting to speculate upon what might have developed in this regard.

The question of the Friendship, Commerce and Navigation (FCN) treaties is more relevant to the present negotiations. The United States and the United Kingdom have a number of FCN treaties in place—some of which, such as the U.K.-Japan treaty, have been negotiated in extraordinary detail. These deal, in a horizontal fashion, with much of the substance of the services negotiations.

Canadian negotiators must recognize that the British and the Americans are going into the negotiations in Geneva with many of these rights already spelled out in treaties with their major trading partners, other than Canada. This will be reflected in their expectations for the Geneva negotiations.

While other countries were negotiating comprehensive agreements establishing the rights of their corporations, Canada was negotiating trade agreements and most favoured nation (MFN) tariff agreements.

Canada, which doesn't have these agreements with its trading partners, must recognize that many countries' rights are already set out in FCN treaties, and all they want out of the Geneva talks is an integrated dispute settlement mechanism.

My second comment is concerned with the prospects for a free-trade area in North America. It seems to me that in Europe there is a history of protectionism in many sectors that the European Economic Community (EEC) has not yet overcome. These protectionist traditions are less entrenched in North America. I think we will be able to move much faster in the direction of free flows in goods and services here than have the Europeans.

My third comment is concerned with Murray Smith's remarks about the views of Canadian negotiators regarding the value of tariffs. I have known and worked with all of them since Norman Robertson, Hector McKinnon and Dana Wilgress – the people who put together the most important commercial treaty in Canadian history, the MFN treaty with the United States in 1935. All of them understood that tariffs impose costs, that tariffs often have unfortunate effects, such as impacting on the political process so as to buttress the position of special interest groups. Some tariffs have been left in place by Canadian negotiators on the basis of political directions received from the minister, not out of a belief on the part of the negotiators that tariffs are a valuable protective instrument. The function of the negotiator is simply to make use of the tariff concessions authorized by the minister. To attribute any view to the negotiator is wrong, his job requires him to put his own views aside.

Finally, on the subject of trade theory. It is an interesting subject for the classroom, but for practitioners it is enough to know that tariffs on goods usually increase costs, and trade usually brings welfare benefits. The exceptional cases, in which positions can be improved by the imposition of barriers, fortunately don't interest policy-makers very much.

In the services sector, it is a different matter altogether. It is very difficult to measure the relative costs and benefits of trade barriers in the service sector. There are benefits – political or economic – to protective measures in some sectors, and it's important that trade negotiators, especially those from the United States, recognize the aims and values which lead different countries to choose to protect certain sectors in their economies. Brazil has done this with its computer industry and Canada has done it with its financial sector.

Grubel (Comment):

First, I've noted in these discussions an absence of any reference to the developing literature on the subject of trade in services – for example, works by Snape, Stern and Bhagwati. These authors have developed such concepts as splintered and separated services which are fundamental to understanding trade in services, and the way in which it differs from trade in goods. I think an awareness of these issues is crucial to any study in the area of trade in services.

Secondly, I'd like to comment on Roseman's suggestion that the federal government negotiate trade in telecommunications services from a position which insists on the maintenance of the current regulatory structure. I wonder whether he thinks this would be possible? In the United States there were two motives for deregulation. First, regulation had been found in many sectors not to have served the public interest – reducing, rather than increasing, public welfare. Second, it was found that technology was moving too fast for the regulators to handle it. How can Canadians expect to do so if the Americans can't? I'm very surprised that in this day and age someone would suggest that we retain, rather than dismantle, the regulatory environment.

Finally, I agree with Rodney Grey that the gains from trade in services will not be all that great. The benefit for Canada is that services negotiations will create new pressures for Canada to join the international movement toward deregulation and give the politicians a way out of the corner they've been painted into by special interest groups. I am surprised, however, that Rodney Grey advocated a return to sector by sector negotiations. I thought these had been totally discredited – in that they give opportunities for special interest groups to block the negotiations. I think a much broader approach would be most beneficial to Canada.

Roseman to Grubel:

The approach I recommend for the current bilateral negotiations is that we move toward liberalization in telecommunications services as far as our current regulatory regime permits, and that the negotiations be used to accelerate regulatory reform in Canada. But I do not think that it is realistic or desirable for trade negotiations to be used as the forum for addressing regulatory issues that need to be aired and decided in the most public way.

Acheson:

In the services negotiations, there will be some elements that will be predictable by examining the history of regulation in various industries. When we look at the concept of national treatment, we have to be able to define exactly what it means for services. For example, with respect to deposit insurance, which is an important element of regulation in financial institutions, one could look at the explicit deposit insurance contract, but there is also an implicit political contract in which players not mentioned in the explicit contract are very important. It is my belief that these implicit contracts are of much greater importance than the explicit ones, and it is important, if other countries are to receive national treatment in Canada, that their relationship to the implicit contracts be understood. To what extent do the implicit regulations apply to foreign firms operating in Canada? What this will mean, I think, is a different type of regulation with a different speed of adaptation to technical change. Given the tendency toward national discrimination in favour of domestic firms, I think national treatment will continue to protect domestic concerns, albeit indirectly. This is something that would be in the mutual interest of the countries involved to prevent. The political drive, however, will probably be in the other direction, despite institutional pressures. I'd like to see international regulation in the future geared toward a better governance structure within a North American framework for better gains in trade, rather than a set of distinct national regulations that don't address areas of conflict.

Moroz to Roseman:

I have a three-part question. First, how would you deal with the area of future negotiability, i.e., having grandfathered all existing regulations, would you include any provisions for negotiating away some of their inherent restrictions in the future? Second, how would you cover future regulations? And finally, what kind of conditions would you put on the sovereign right to regulate?

Roseman to Moroz:

I don't think the right to regulate will be fundamentally challenged in negotiations on trade in services. Just as in the GATT there are articles pertaining to exceptions, such as national security and public health, I think principles applying to services trade and domestic regulation will evolve during the negotiations. Regulations identified as acceptable in terms of those principles would remain; those deemed to be unacceptable would be eligible for negotiation, reduction and/or elimination. I would see that as the appropriate approach to services negotiations.

Bernstein to Roseman:

You give the impression that adjustments could be made to the existing regulatory structure to accommodate trade in telecommunications, but it seems to me that there is a fundamental incompatibility between the existing regulatory structure in Canada for telecommunications and free trade. This is, I think, reflected in three ways. First, the rate structure in Canada is very different from that in the United States. Under free trade these would have to be changed. Not just the local and toll pricing, but the whole revenue settlement procedure would have to be changed. The second feature is that the boundary between basic and enhanced services is continually changing. The natural monopoly in telecommunications seems to be disappearing with carriers competing for local access. It is no longer clear that we still have a natural monopoly situation. Third, with regard to carrier entry, Canada seems to maintain a paradoxical position. We are talking about freer trade with regard to the entry of foreign firms, but looking at the CNCP (Telecommunications) experience, we see that the CRTC has continually blocked its efforts to break into Canadian markets. Although our position has been in favour of increased competition through trade, we don't allow domestic carriers into these markets. In sum, it seems to me that there will have to be fundamental changes in the existing regulatory structure to accommodate increased trade.

Roseman to Bernstein:

I agree with you on all three points. Regarding carrier entry, I don't think we'd want to allow entry to U.S. firms before CNCP and other Canadian firms, but the means of introducing greater competition will have to be worked out first, it seems, at the political level, between federal and provincial communications ministers, rather than by the CRTC.

Labour Mobility and Trade in Services

Ivan Bernier
Centre Québecois de
Relations Internationales
Université de Laval
Laval, Québec

The objective of this study is to examine the approaches, rules, principles, and procedures that could be developed for the movement of people under a trade agreement on services. The study will examine the problems and issues for professionals and semi-professionals in both crossing borders on a temporary basis and undertaking work in the foreign country, including issues such as temporary visas and professional accreditation. The types of service professions to be examined include business services, financial services, legal services, computing services and technical services.

The study will consist of four sections. The first, preliminary in nature, will develop a conceptual framework to look at the subject of labour mobility and trade in services, building upon documents such as the "U.S. National Study on Trade in Services," the Organization for Economic Cooperation and Development's (OECD's) "Elements of a Conceptual Framework for Trade in Services," and making reference, where it appears useful, to analytical concepts developed in the European Economic Community (EEC) and elsewhere. The second section will examine how labour movement for the provision of services across borders has been dealt with in international trade agreements, with a particular emphasis on the experience of the EEC. It will also review various other proposals and suggestions for the treatment of labour mobility in trade in services. The third section will identify, examine and discuss the kinds of labour impediments that affect labour movement in the transborder delivery of services, focusing primarily on those affecting Canada-U.S. trade in services, and keeping in mind the problems raised by the constitutional division of responsibilities in those two countries. The last part of the study will examine how the movement of labour can be dealt with in a trade agreement on services, identifying in particular the principles, rules and procedures that could be appropriate for such an agreement, whether a bilateral one between Canada and the United States, or a multilateral one under GATT auspices.

What has been done so far is a preliminary survey of how the European Economic Community (EEC) has incorporated services under the Treaty of Rome, how this approach has functioned, what problems have arisen and what lessons can be drawn from the EEC experience.

A double process characterizes the approach developed in the EEC Treaty in order to realize free movement of services. The first process involves the gradual elimination of restrictions on freedom to provide services. The principle of such elimination of restrictions on services is stated in article 59. The restrictions to which reference is made in article 59 are to be understood as meaning restrictions operating specifically against foreigners, either because of their nationality or because of their residence.[1] The process of liberalization works as follows: First, there is a standstill imposed by article 62: member states are to refrain from introducing any new restrictions on the freedom to provide services, which freedom has been attained at the date the treaty was implemented. According to the EEC Court of Justice, article 62 produces direct effect in relations between the member states and their nationals, which means that in case of infringement of the standstill rule, the latter can call upon the courts in their own country to uphold their individual rights.[2] As far as concerns about restrictions existing at the date of entry into force of the treaty (January 1, 1958), they are to be removed progressively in the course of the transitional period (12 years). For that purpose, article 63, paragraph 1, provides that the EEC Council, acting unanimously on a proposal from the EEC Commission, shall draw up a general program setting out the conditions under which, and the stages by which, each type of service is to be liberalized. Article 63, paragraph 2, further provides that to implement the general program, or in the absence of such a program, to achieve a stage in the liberalization of a specific service, the council, on a proposal from the commission issues the necessary directives. We shall see later what has been the result of the normative activity of the European Community in the field of services. It is enough to say for the moment that by the end of the transitional period, free movement of services had only been partially implemented; whether or not the general program was too ambitious, the fact is that its implementation did not proceed as smoothly as expected. This, however, did not prevent the EEC Court of Justice from deciding in 1974 in the Van Binsbergen case, and later in the Van Wesemael and Webb cases,[3] that despite this failure, the right to freedom of services has become absolute and directly applicable from the end of the transitional period. In other words, directives were not necessary to establish the existence of the right to freedom of services: that had been established by the treaty itself, and the purpose of any future directives would simply be to facilitate and regulate the exercise of rights arising under the treaty.

The second process envisaged by the EEC treaty to realize the free movement of services is one of coordination. The basic provisions of the treaty providing for the coordination of the legislation, regulations and administrative rules of member states in the field of services are to be found in article 57. Two distinct situations are envisaged. Article 57 (1) provides first that, to make it easier for people to take up and pursue activities as self-employed persons, the council, on a proposal of the commission, issues directives for the mutual recognition of diplomas, certificates or other national qualifications.

In June 1974, a resolution was adopted by the council in order to speed up the work on the mutual recognition of diplomas, certificates and other evidences of qualification. It proposed a guideline "based on the premise that there is a broad comparability between the qualifications giving access to identical fields of activity, so that the directives for the mutual recognition of professional qualifications and for the coordination of the conditions of access to the professions should resort as little as possible to prescribing detailed training requirements."[4] This approach appears to have had a certain success, particularly in the period immediately following the adoption of the resolution.

Article 57 (2), although pursuing the same objective as article 57 (1), is more general in its orientation: it provides for coordination of the legislative and administrative provisions of the member states concerning the taking up and conducting of non-wage-earning activities. Here again, a number of directives have been adopted relating to specific activities. Directive 73/239/CEE, for instance, coordinates national interventions relating to access to, and pursuit of, activities in the field of direct insurance other than life. Here again, a fair number of directives have been adopted under the authority of article 57 (2) and some interesting developments have taken place, particularly with regard to the adoption of the principle of "home country control." But as the commission's White Paper on the Completion of the Internal Market made it clear in 1985, there are still important problems to solve.

To sum up, then, on the treatment of services in the EEC treaty, the treaty is oriented towards the gradual realization of the free movement of services and it involves a double process, one of elimination of restrictions on services, the other of coordination of the legislation, regulations and administrative rules of member states relating to services. Although free movement of services, since the end of the transitional period, has become a right that is absolute and directly applicable, its practical realization rests not so much on the court, which admittedly plays an important role in this area as in others, but on the commission and the council whose task it is to adopt whatever directives are necessary to make free movement of services a reality.

Both the bilateral trade negotiations between Canada and the United States and the multilateral GATT negotiations include services among their objects. Are there lessons to be learned from the EEC experience with regard to such negotiations?

If we talk of lessons as such, the answer should probably be no. The contexts are too different to allow for a strict comparison. The European Economic Community, with its commission, its council and its court, has nothing in common with the loose organization of the GATT, and would remain far more integrated than any eventual free-trade area between Canada and the United States. Thus, the type of coordination of national interventions that takes place in the EEC is impossible to imagine in the context of GATT and not a very serious possibility in the context of a Canada-United States free trade agreement. Judging by the experience of the EEC, one could always argue that coordination or harmonization of national legislations as a method of realizing free movement of services in these two contexts should not be pursued: but that is not very helpful as the possibility of developing such an approach at the outset is either inexistent or remote.

If no lessons are to be learned from the experience of the EEC, there are nevertheless some useful ideas that could be picked up. One is that of an illustrative list of restrictions to free movement of services, following the model developed in the General Program on Services. As mentioned previously, this technique of an illustrative list, already used in GATT with regard to subsidies, could be used with profit in the case of services to clarify where a consensus exists as to what should be avoided.

Another idea or concept that could be borrowed from the experience of the EEC is that of "home country control." The possibility of transposing this concept in a broader context exists and should be further investigated. The approach at first sight is not far from that used in the GATT Code on Technical Barriers to Trade with regard to certification systems.

Another aspect of the experience of the EEC that could yield interesting results is its experience in dealing with exceptions to the principle of free movement of services. The EEC court has spent some time looking at such concepts as "public interest," "general interest," "public policy, health and security," etc. Before introducing in GATT exceptions that relate specifically to trade in services, a closer look at the EEC experience could prove useful for the wording of such exceptions.

Finally, on a sectoral basis, a better understanding of the practical problems associated with the liberalization of financial services, professional services, or of activities that are related to broadcasting, could prove most useful, particularly for Canada, where such problems are bound to be raised.

Notes

1. *Van Binsbergen*, Case 33/74, (1974) E.C.R. 1299.
2. *Reyners*, Case 2/74, (1974) E.C.R. 631.
3. *Van Binsbergen*: see supra, note 1; *Van Wesemael*: case 111/78: *Webb*: case 279/80.
4. Commerce Clearing House (C.C.H.), *Common Market Reporter*, art. 57.

Discussion:

Labour Mobility and Trade in Services

MacCharles to Bernier:

I wonder how it would be possible to negotiate free trade arrangements with regard to the professions, such as the legal and medical professions which are self-regulated and have distinct codes of ethics and standards on a provincial as well as a national level?

Bernier to MacCharles:

I guess it would be a matter of identifying common standards among the provinces. I think there is more common ground here than you might suspect and that the problem isn't really all that acute.

Comments by Rapporteur:

Survey of Issues and Future Research

Dennis P. De Melto
Director General
Service Industries and Consumer Goods
Department of Regional Industrial Expansion
Ottawa, Ontario

I would like to begin by reviewing progress to date under the Department of Regional Industrial Expansion's Service Industries Studies Program. This program initiated, and is sponsoring, the considerable amount of research into the service sector being carried out under the aegis of the Institute for Research on Public Policy, the Fraser Institute and Statistics Canada.

The report on the first symposium, hosted in Vancouver by the Fraser Institute, which brought together the many researchers participating in the service sector research project, has been published. That symposium was extremely helpful in identifying the objectives of this cooperative research project, and in identifying and conceptualizing the key issues relating to the service sector and its role in the domestic and international economy. I highly recommend this publication for the strong conceptual guidance it offers on service sector research issues.

In total, over 100 research studies are being undertaken. Some of the more theoretical and conceptual studies are now emerging on issues such as how to scope out the service sector, the growth of the sector, factors influencing the growth of the sector and trade theory as it relates to services. In addition, papers dealing with legal and institutional issues that relate to the negotiating of international rules to govern trade in services are also emerging. Finally, a few of the major service industry studies are emerging, and a large number of the major vertical and horizontal service sector studies will become available over the next few months.

The research results exposed and discussed in the course of the last three days in this second symposium indicate that significant progress is being made in meeting the objectives of the Service Industries Studies Program. I would like to identify just a few of the major issues which have emerged from the papers presented here, and the related discussions on the role of the service sector in the economy.

One question which emerges most clearly is whether the service sector can be analyzed as a single sector—given its size and great diversity. It appears that the situation in this respect likely parallels that in the manufacturing sector, which usually requires an analysis of specific industries or groups of industries within manufacturing in order to address the most relevant economic questions.

There appears to be agreement that one clearly useful analytical approach is to distinguish consumer, producer and public service industries in investigations of the dynamics of the service sector. Since data are not collected along these lines, it has been necessary so far to work with estimates of, for example, employment numbers for consumer, producer, and public services.

At the same time, it has also become clear that a large number of the industries comprising the service sector are regulated industries—financial, communication, transportation, professional and cultural services industries. In these industries, regulation, deregulation and re-regulation have been identified as key factors in relation to industry competitiveness, growth prospects and international trade and global integration.

Despite the diversity of the service sector, I believe some strong commonalities are also beginning to emerge in terms of the characteristics and performance of the service industries in general and even more strongly in terms of the breakdowns of the sector discussed above. One example would be the relatively greater human capital intensity of service industries and their reliance on the generation, utilization and dissemination of data and information in relation to their input, production processes, output and markets. Attention was drawn to the malleability of many service firms in information-intensive areas and the fact that their services can be supplied at very low marginal costs once the fixed costs of acquiring the knowledge and information are incurred. Another factor identified as common in many services industries was asymmetries in the availability of information as between buyers and sellers of services and the consequential importance of reputation of service sellers and the existence of a solid track record. It was agreed the question of the importance of specialization within specific commercial services industries was a critical issue deserving of further analysis. These issues have important policy implications – for example, they are relevant to the question of how firms will adjust to changes in the international trading environment. It may be that adjustments of service industries to Canada-U.S. trade liberalization will primarily involve intra-industry adjustment, given the characteristics of service firms.

In the area of trade theory as applied to trade in services, it appears that significant progress is being made in understanding how introducing services trade into traditional trade models can give rise to non-standard results as to expected directions of trade flows and comparative advantages. In addition, application of the newer industrial organization-based trade theories suggests the need to be more sensitive to industrial structure-conduct-performance issues and implications for government policies and programs. Nevertheless, it appears that the major conclusions associated with trade theory still emerge in the face of international services trade – in fact it has been suggested that the addition of tradeable services strengthens the traditional case for gains from trade liberalization.

Another issue that has received considerable attention, and deservedly so, is the set of issues relating to defining services trade. In doing business internationally many service firms establish operations abroad to produce and sell their services because of the need, for one reason or another, to be close to their customers – e.g., many, though not all, banking services are of this nature. In other cases, firms may produce the service in Canada and export it to countries abroad (for example, consulting firms' reports or designs or data processing services). In most cases, neither the pure foreign direct investment nor pure trade models can be applied in respect of international services activities. For example, foreign service establishments will deliver services locally that have been partially developed in Canada and partially developed abroad. In addition, in both cases, one would expect to see considerable movement of personnel between the two markets to assist in the delivery of the service abroad. Similar considerations apply to services provided as part of major foreign projects, such as consulting engineering, which involves considerable travel on the part of the personnel of the firm in the course of delivering the service, as well as any establishment of offices, agency and joint venture arrangements with firms abroad. In still other cases, delivery of the service to foreigners requires that they come to Canada (for example, tourism and many health and educational services). Finally, even for services normally thought of as purely domestic, e.g., retail trade, foreign income may be earned via international franchising – that is, selling successful ways of doing business. Specific industry studies are beginning to identify the particular combinations and permutations of international services activities common to those industries.

Although conceptually one can distinguish pure trade in services from returns to factors of production employed abroad, including profit from foreign operations, the prospects for measuring pure services exports and imports for reasonably disaggregated service industries are not very good. Evidence to date would appear to indicate that pure trade in services involving the export of services by firms in Canada, and the import of services into Canada from firms abroad, is not a large proportion of measured receipts and payments for services as reported under the existing balance of payments statistics. An additional complication relates to the issue of intrafirm services trade across national boundaries. Subsidiaries of foreign multinational enterprises (MNEs), for example, import technical, managerial, marketing, legal, financial and other services from their foreign parent which also give rise, directly or indirectly, to foreign payments for services. There is wide variation among MNEs in approaches and practices in respect to charging for such services. For the foreseeable future, the best source of data and information on these very complicated issues is likely to be the industry studies where they focus on how and the extent to which service firms in the different industries do business internationally.

The major service industry studies are just beginning to emerge – most in preliminary form – and a number of these were reviewed over the last two days. Two public services studies were discussed, as was a horizontal study of government services. The two case studies take on the task of describing and attempting to explain the growth and performance of the industries. Predictably, the lack of sound output measures, price indexes and measures of productivity were raised and there was considerable criticism of existing surrogate measures. It was agreed there was a need to focus more on how output could be measured in these sectors (education and medical services), and what kinds of measures or approaches would produce useful productivity information. The issues raised were not simply data issues, but rather were related to productivity, quality, inability to measure the industries' contributions to welfare, value for money in a non-market context, and organizational innovation. The government services paper raised similar issues, and proposed to review the historical development of the sector, not only in terms of size and growth but also in terms of the changing approaches and instruments governments adopt for delivering public services. It was suggested the paper include a careful laying out of what is or is not a public service in the Canadian context.

A more horizontal study of consumer services presented preliminary estimates of the size and growth of the sector and the factors affecting its growth in the past, as well as its future prospects. The rising female labour force participation rate is identified as a key determinant of the relatively rapid growth of the sector and, other things remaining equal, a good basis for estimating the likely limits to the relative growth of the sector in the future. It was suggested that in order to further clarify these results, however, it would be useful to better identify the supply curve. It appeared there are new, more efficient and expanded consumer services not only in the domestic market, but also internationally – partly as the result of technological advance.

In addition, a number of commercial service industries studies were discussed in both the consumer and producer services areas. These studies demonstrated a concern with how to measure output, prices and productivity given the nature and characteristics of many services, as discussed above. These issues are less difficult than in the case of public services, but are certainly more complex than is the case for goods-producing industries. In the public services area, as mentioned above, the fact that the prices of the services were not determined in a free market context was highlighted. For example, it was pointed out that the relatively rapid increase in teachers' wages was presented as a cause for concern about the rising costs of education, whereas the rapid increase in lawyers' incomes was put forward as an indicator of the rapid growth of that industry.

Most of the industry studies presented under the programs of the two institutes were at an early stage of development. It was agreed that in general an increased focus was required to identify the factors explaining the growth of the industries, the major constraints facing the firms, the structural characteristics of the industries, the competitive position of firms from an international perspective, the role and influence of governments in the sectors, and the degree to which, and the way, service firms do business internationally. Most of these issues arose in one or another of the industry studies reviewed. One issue that appeared to be rather neglected in the industry studies was the issue of innovation and technological change. Considerable emphasis in the presentations was placed on the generation of information, and the creation of intellectual capital in many service industries. This appears to be a counterpart to the measured research and development (R & D) activities undertaken in the resource and manufacturing industries. In the discussions, organizational change was raised as an important consideration in service industries. The application and diffusion of technology did not, however, receive the attention it deserves. More emphasis could be placed on how firms innovate in the service industries, and the extent to which both customers and suppliers to service firms play a role in the innovation process.

Finally, work drawing the implications of the analysis for specific service industries for government policies and programs was also still at a very preliminary stage. However, a number of examples were put forward strongly suggesting that the nature and characteristics of the different service industries would demand approaches to the role of government and policy development which could be quite different from traditional economic policy and program approaches for the goods-producing industries. Policy areas that were discussed in the course of the Roundtable included trade policy, regional policy, deregulation and re-regulation, intellectual property, competition policy, tax policy, government procurement policy and industrial policy.

Progress is also being made on the statistical front, as demonstrated by the review of issues under investigation at Statistics Canada. Work is under way to situate and analyze the body of services statistics within the overall system of national accounts, and the statistical collection activities of Statistics Canada. Some fundamental issues that were raised attempt to relate the macro performance of the economy to the relatively rapid growth of the service sector, in terms of overall growth, productivity, international competition, inflation, and trade and fiscal deficits. In addition, progress on studies of measurement and data availability in specific service industries were also reviewed, and are addressing such issues as how to measure service outputs and prices – issues which were raised as problem areas in almost all the domestic and international industry case study reviews.

Regional development and the service industries represent another critical set of issues discussed in the course of the Roundtable. Research in this area is focusing on key questions and issues such as where services industries locate and why, propulsive *vs.* non-propulsive service industries, agglomeration economies, urbanization, regional exports and whether there exists locational flexibility with respect to producer services industries (the so-called footloose industries issue). These are issues which should also be addressed in the specific industry studies discussed above.

As usual, data problems emerged to constrain efforts to analyze interprovincial trade in services; such efforts would help to define how service industry growth affects regional disparities. Nevertheless, the studies reviewed indicate that considerable progress can be expected in developing a better understanding of the role of the service industries in regional development, and the implication for regional industrial development policies. In addition, the potential may exist for better integration of international and regional trade theories.

Several studies have already become available on the legal, institutional and negotiating issues for trade in services. Although there are some international examples of agreements and arrangements to liberalize trade in some services, it was agreed that negotiating a freer trade in services agreement bilaterally or multilaterally would, to a large extent, be breaking new ground. One key issue that did not receive much attention at the Roundtable was whether or not the negotiation of liberalized trade in services in the Canada-U.S. or multilateral contexts was a desirable objective. There appeared to be a general view that freer trade in services was in the interest of Canada, but that we did not have any fix on how big the gain from trade would be, nor any great prospects for developing such measures. In the Canada-U.S. context, it was recognized that outside of the regulated areas, there is a significant degree of freedom to trade services which need to be secured for the future. Barriers to trade in services are predominantly regulatory in nature. Barriers to labour mobility were recognized to be an important horizontal issue, and rights of establishment an important issue in regulated areas.

Again, industry-specific analyses appear to be the best source of information on the benefits, costs and industrial impacts of a movement to freer trade. It was pointed out that there was a need for stronger linkages between the analytical and policy processes in the negotiation of freer trade. A number of suggestions were made for areas in which negotiators could benefit from more focused research support – including the issue of the need for reasonable mobility of the providers of services to travel abroad in support of the delivery of services internationally – barriers to services trade; the difficult issue of cultural industries and trade liberalization; the impact of free trade on specific service industries and expected adjustment patterns; and the issue of the role of services in economic development with particular reference to the interests of the less developed countries in liberalized services trade.

Based on the research results reported upon and discussed in the course of this Roundtable, it is clear that significant progress is being made in developing a better understanding of the service sector and its role in the economy. Misconceptions about the role of the service sector, its contribution to the creation of wealth and economic development, are being rapidly dispelled. In the case of the public sector, a major problem arises because of our inability to measure the contribution of many public services to the longer term viability and growth of the economy, e.g., education. In the case of commercial services, the linkages between service industries and the rest of the economy, and between trade in services and trade in goods, are becoming increasingly clear. The more these linkages are understood, the better our abilities to understand the future direction of the economy, and the likely limits to the relative growth of the service sector.

In this respect, the relatively rapid growth of the producer services sector has been highlighted in a number of studies and analyses to date under the program. A number of issues are under investigation in this area, and they are very important, e.g., the growing importance of service activities in production systems.

It appears, for example, that production processes in advanced industrial economies are becoming increasingly characterized by service-type activities, many related to the technical services required as production processes become increasingly complex, and still more related to information services supporting all aspects of the activities of firms, purchasing, scheduling, production, marketing, financing, etc. To the extent that service-type activities are becoming more pervasive in modern industrial production processes, the amount of services embodied in goods and exports increases, and the competitiveness of the economy becomes increasingly dependent on the quality and efficiency of production of these services. This implies that the movement to an information and services economy is even more pervasive than indicated by existing measures of the scope of the services industries *per se*.

In these circumstances it is not surprising to see, as a parallel development, the emergence of the issue of specialization and contracting out of services as an important factor explaining the growth of the producer services industries. The growth of producer services industries appears in this context to be a continuation of the historic evolution of productive systems in the direction of increased specialization. These same developments and pressures, aided by technological advances, no doubt play a similar role in explaining the growing international activity of service firms and industries as these specialization processes become globalized. A view that these processes simply represent a change in the locus of certain activities among firms and industries would seriously underestimate the efficiencies and market pressures to innovate created by such processes.

Finally, the issue of a future research agenda strikes me as being premature at this point in the Service Industries Studies Program (SISP). The current research agenda is very full indeed, and only about one third of the planned research under the program is available to us at this point. Most of the research will emerge over the next six months. Already it is clear that great progress is being made, and is in prospect for the development of a better understanding of the service sector and in addressing some very fundamental issues related to the future direction of the economy. The critical issue at this point remains the policy agenda. The real challenge will be for us to digest and integrate the wealth of emerging research results, answer some very fundamental questions, and draw from them the implications for public policy.

Discussion:

Survey of Issues and Future Research

Bradford:

I have a number of general observations and several suggestions to make with regard to further research that might be undertaken in this area:

1. There has been virtually no research done on the problem of temporary labour mobility. This is a major issue for every service industry and must be addressed.
2. The cultural sector is the most highly protected of the domestic service industries. It is highly visible, politicized and poses fundamental problems for policy makers. Some help there would be most welcome.
3. I think there is some merit in attempting to maintain, in the research done in this area, distinctions between regulation/deregulation and trade liberalization. Both, naturally, should be dealt with, but a dichotomy between the two should be made.
4. The problem of the adjustments that the business community will have to make to be competitive in the future deserves more attention. We have some real abilities, but we need to know how to exploit these.
5. With regard to the question of the role of the service sector in the development process, I'd like to bring to your

attention to Dorothy Riddles' work which I believe is the most useful work in this crucial area. I think there are some lessons there that could be applied to the Canadian experience.

Polèse:

I agree with Ms. Bradford that questions of labour mobility and immigration across the Canada-U.S. border are crucial to the service industry. It seems to me this opens a whole Pandora's Box of problems, because what we're really talking about are services embodied in factors. We will have to find a cut-off point between immigration and trade in services across national borders. The United States is very wary of loosening its immigration laws, and this will have a profound effect on what people will be allowed across the border. It's going to require a lot of imagination on the part of the negotiators, it seems to me, to sort this question out.

Grubel:

I've been told by foreign bankers that one of the reasons it is so difficult to provide international banking service in Canada is that it is so difficult to get temporary visas for people to come to Canada.

Maki:

One study that I think is missing is some empirical work on how groups of service industries should be combined in the research. Perhaps some straightforward analysis (factor analysis or multiple discriminant analysis?) could be undertaken to develop a classification system which would group together service activities which appear to be naturally related and functionally compatible, whether it be for trade or something else.

Dobell:

In closing this meeting, then, I cannot resist highlighting two of the policy issues which inevitably will be around for inclusion in the longer term research agenda, even if it is, as Dennis suggests, premature to talk about it. One is the role of public policy in facilitating the emergence, birth and growth of service industries that have the potential to be competitive if they can achieve a foothold. In a world of changing technologies, where "first entry" may confer critical advantages, and the dynamics of technological advance may mean that such advantages become entrenched and (at least temporarily) irreversible, nations may feel it essential, as Rod Grey suggested, to exercise their responsibility to shape national development paths and to work toward measures to assist firms in "engineering" comparative advantages. What roles in the innovation process, the diffusion process, or the investment process might be appropriate for this purpose? We probably need more work on the dynamics of entry into new markets, new product lines, new production technologies and so on, in order to approach this reworked "infant industry" argument.

The second perennial question relates to the role of service sectors in the process of regional growth. The determinants of location decisions will remain a vexed question, perhaps even more so for service firms than for goods production, and the extent to which new technologies may prove ultimately to encourage a more centralized or a more dispersed economic structure obviously will remain a crucial problem to explore. Whether there are appropriate and effective policies which might lead to greater regional balance within allegedly "footloose" producer services industries is perhaps a good question to take into lunch with us.

There being apparently no further observations for the moment, let me simply express a word of thanks to Martine Desbois and Heather Neufeld for their hard work on the organization of the meeting, to our technician for recording it for posterity and later recriminations, and to you all for your participation.

We meet again at a place and time to be decreed by Dennis De Melto. Thank you all. This meeting stands adjourned.

Annex A: Agenda

June 2-4, 1987
Toronto

Tuesday, June 2, 1987

9:45 - 11:00 a.m.	Opening Comments - A.R. Dobell

Trade in Services - Theoretical Issues

10:00 - 10:20 a.m.	Trade in Services: A Heckscher-Ohlin Approach, by Jim Melvin
10:20 - 10:40 a.m.	Trade in Services: Scale Economies and Human Capital, by Jim Markusen
10:40 - 10:55 a.m.	Coffee Break
10:55 - 11:15 a.m.	Trade in Services: Information, Technical Innovations and Regulations, by Gérald LeBlanc
11:15 - 12:00 p.m.	Questions and Open Discussion

Panel Presentation on Performance and Policy

12:00 - 1:30 p.m.	From Theory to Policy: A Premature Analysis, by Jim McRae Policy for the Service Sector: What's Possible?, by Mark Krasnick
1:30 - 2:30 p.m.	Buffet Lunch

Tuesday, June 2, 1987 (continued)

Domestic Issues

2:30 - 3:15 p.m.	Medical Services, by Malcolm Brown
3:15 - 4:00 p.m.	Elementary, Secondary and Vocational Schools, by Steve Easton
4:00 - 4:30 p.m.	Coffee Break
4:30 - 5:15 p.m.	Household Demand for Services, by Herb Grubel and David Hammes
5:15 - 6:00 p.m.	Retail and Wholesale Trade, by Keith Acheson and Stephen Ferris
	Free Evening

Wednesday, June 3, 1987

Domestic Issues

8:45 - 9:30 a.m.	Government Services, by Doug Auld, Bill Stanbury
9:30 - 10:15 a.m.	Legal Services, Consulting Engineers and Architects, by David Gill and David Hammes
10:15 - 10:45 a.m.	Coffee Break
10:45 - 11:30 a.m.	Business Services, Personnel Agencies and Security Services, by Dennis Maki
11:30 - 12:15 p.m.	Amusement, Recreation and Broadcasting, by Bill Watson
12:15 - 2:00 p.m.	Lunch. Guest Speaker: Mrs. Jill Bodkin
2:00 - 5:00 p.m.	*Statistical Issues* (Statistics Canada), by Terry Gigantes

Services in Regional Development

5:00 - 5:20 p.m.	Service Industries and Regional Development: Theory, Data and Policy - Part I, by William Coffey
5:20 - 5:40 p.m.	Service Industries and Regional Development: Theory, Data and Policy - Part II, by Ken Norrie
5:40 - 6:00 p.m.	Questions and Open Discussion
7:30 p.m.	Dinner. Guest Speaker: Mr. Rodney de C. Grey

Thursday, June 4, 1987

Trade in Services - Empirical Background

8:30 - 8:50 a.m.	Engineering & Real Estate, by Mario Polèse
8:50 - 9:10 a.m.	The Future of Banking, by Thomas Courchene
9:10 - 9:30 a.m.	Questions and Open Discussion

Trade in Services - Legal, Institutional and Negotiating Issues

9:30 - 9:40 a.m.	Overview, Dan Roseman
9:40 - 10:00 a.m.	Linkages Between Economic Theory and Negotiating Issues, by Murray Smith
10:00 - 10:15 a.m.	Coffee Break
10:15 - 10:35 a.m.	Negotiating Rules on Telecommunications Services, by Dan Roseman
10:35 - 10:55 a.m.	European Community Experience with National Treatment, Right of Establishment, Commercial Presence, with a Specific Focus on Professional Services, by Ivan Bernier
10:55 - 12:00 p.m.	Questions and Open Discussion
12:00 - 1:00 p.m.	Comments by Rapporteur: *Survey of Issues and Future Research*, by Dennis De Melto

Annex B: List of Participants

Professor Keith Acheson
Carleton University
Ottawa, Ontario
K1S 5B6

Ms. Anna Ansmits
Director, Services Division
Resources, Technology and Services
Statistics Branch
Statistics Canada
Jean Talon Building
6th Floor, Section D8
Ottawa, Ontario
K1A 0T6

Professor Douglas Auld
Sir Sanford Fleming School of
Natural Resources
Box 8000
Lindsay, Ontario
K9V 5E6

Mr. Radek Bandzierz
Manager, Planning & Analysis Division
Services Industries Branch
Regional Industrial Expansion
9th Floor East (ISEI)
235 Queen Street
Ottawa, Ontario
K1A 0H5

Ms. Lorena Baran
The Fraser Institute
626 Bute Street
Vancouver, British Columbia
V6E 3M1

Mrs. Jalynn Bennett
Vice President, Corporate Development
The Manufacturer Life Insurance
Company
200 Bloor Street East
North Tower 11
Toronto, Ontario
M4W 1E5

M. Ivan Bernier
Directeur général
Centre Québecois de relations
internationales
Université Laval
Québec, P.Q.
G1K 7P4

Professor Jeffrey Bernstein
Department of Economics
Carleton University
8th Floor, Loeb Building
Ottawa, Ontario
K1S 5B6

Ms. Jane Billings
Director
Planning and Commercial and
Distribution Service Industries
Services Industries Branch
Regional Industrial Expansion
9th Floor East (ISEI)
235 Queen Street
Ottawa, Ontario
K1A 0H5

Mrs. Jill Bodkin
Suite 201
815 Hornby Street
Vancouver, British Columbia
V6Z 2E6

Mrs. Meriel Bradford
Service Industries Coordinator
Trade Negotiations Office
17th Floor
50 O'Connor Street
Ottawa, Ontario
K1A 1G1

Professor Malcolm Brown
Department of Economics
The University of Calgary
2500 University Drive N.W.
Calgary, Alberta
T2N 1N4

Professor Jack Carr
Institute for Policy Analysis
University of Toronto
150 St. George Street
Toronto, Ontario
M5S 1A1

Professor John Chant
Department of Economics
Simon Fraser University
Burnaby, British Columbia
V5A 1S6

Mr. Mel Clark
2336 Hillary Avenue
Ottawa, Ontario
K1H 7J3

Mr. William Coffey
Institut national de la recherche
scientifique
Université du Québec
3465 rue Durocher
Montréal, Québec
H2X 2C6

Professor David Conklin
Research Coordinator
Institute for Research on
Public Policy
c/o National Centre for Management
Research and Development
Room 200
University of Western Ontario
London, Ontario
N6A 3K7

Ms. Gail Cook
Executive Vice President
Bennecon Ltd.
P.O. Box 59
Toronto-Dominion Centre
Toronto, Ontario
M5K 1E7

Professor Thomas Courchene
Department of Economics
University of Western Ontario
London, Ontario
N6A 5C2

Professor Donald Daly
Faculty of Administrative Studies
York University
4700 Keele Street
Downsview, Ontario
M3J 1P3

Dr. Dennis De Melto
Director General
Services Industries Branch
Regional Industrial Expansion
235 Queen Street
Ottawa, Ontario
K1A 0H5

Professor Michael Denny
Department of Economics
University of Toronto
150 St. George Street
Toronto, Ontario
M5S 1A1

Miss Martine Desbois
Project Administrator
Service Sector Projects
Institute for Research on Public Policy
3771 Haro Road
Victoria, British Columbia
V8P 5C3

Ms. Lucile Deschênes
Analyst, Canadian Workplace
Automation Research Centre
1575 Bld. Chomedey
Laval, Québec
H7V 2X2

Professor Erwin Diewert
Department of Economics
University of British Columbia
Vancouver, British Columbia
V6T 1Y2

Dr. Rod Dobell
President
Institute for Research on Public Policy
3771 Haro Road
Victoria, British Columbia
V8P 5C3

Professor Stephen Easton
Department of Economics
Simon Fraser University
Burnaby, British Columbia
V5A 1S6

Mr. James A. Everard
Manager, Policy Analysis
International Trade & Correspondent
Banking
The Royal Bank of Canada
Royal Bank Plaza
Toronto, Ontario
M5J 2J5

Professor Stephen Ferris
Department of Economics
Carleton University
Ottawa, Ontario
K1S 5B6

Professor Randall Geehan
Department of Economics
Carleton University
8th Floor, Loeb Building
Ottawa, Ontario
K1S 5B6

Mr. Terry Gigantes
Director General
Classification System Branch
Statistics Canada
Jean Talon Building
13th Floor, Section B6
Ottawa, Ontario
K1A 0T6

Mr. David Gill
Research Economist
The Fraser Institute
626 Bute Street
Vancouver, British Columbia
V6E 3M1

Mr. Yvon Goulet
Director General
Resources, Technology & Services
Statistics Canada
R.H. Coats Building
10th Floor, Section R
Ottawa, Ontario
K1A 0T6

Mr. Bill Graham
Centre for International Studies
Trinity College
Hoskin Avenue
Toronto, Ontario
M5S 1H8

Mr. Rodney de C. Grey
175 Rue de la Mairie
30920 Codognan
France

Professor Herbert G. Grubel
Director, Service Industries Project
The Fraser Institute
626 Bute Street
Vancouver, British Columbia
V6E 3M1

Mr. David Hammes
Research Economist
The Fraser Institute
626 Bute Street
Vancouver, British Columbia
V6E 3M1

Professor Gerry Helleiner
53 Wanda Road
Toronto, Ontario
M6P 1C7

Miss Beverly Hillman
Policy Office
Technology Assessment Branch
Department of Communications
300 Slater Street
Ottawa, Ontario
K1A 0C8

Mrs. Carol Kirsh
Director
Service Sector Secretariat
Ministry of Industry, Trade
and Technology
900 Bay Street
Hearst Block
Toronto, Ontario
M7A 2E1

Ms. Elaine Kozak
Director of Strategic Planning
Ministry of Economic Development
1405 Douglas Street
Victoria, British Columbia
V8W 3C1

Mr. Mark Krasnick
Swinton & Co.
Suite 1000
840 Howe Street
Vancouver, British Columbia
V6Z 2M1

Professor Gérald LeBlanc
Département d'Economique
Université Laval
Pavillon de l'Est
Cité Universitaire
Sainte Foy, Québec
G1K 7P4

Professor George Lermer
School of Management
The University of Lethbridge
4401 University Drive
Lethbridge, Alberta
T1K 3M4

Professor Don MacCharles
Division of Social Science
University of New Brunswick
P.O. Box 5050
Saint John, New Brunswick
E2L 4L5

Professor Don McFetridge
Department of Economics
Carleton University
Ottawa, Ontario
K1S 5B6

Professor Jim McRae
Research Coordinator
Service Sector Projects
Institute for Research on Public Policy
3771 Haro Road
Victoria, British Columbia
V8P 5C3

Professor Don Maki
Department of Economics
Simon Fraser University
Burnaby, British Columbia
V5A 1S6

Ms. Janette Mark
North South Institute
185 Rideau Street
Ottawa, Ontario
K1N 5X8

Professor Jim Markusen
Department of Economics
University of Western Ontario
London, Ontario
N6A 5C2

Professor Frank Mathewson
Department of Economics
University of Toronto
Toronto, Ontario
M5S 1A1

Professor Jim Melvin
Department of Economics
University of Western Ontario
London, Ontario
N6A 5C2

Mr. Sandy Moroz
Economic Trade Advisor
Economic & Trade Analysis Division
CPE
External Affairs
125 Sussex Drive
Ottawa, Ontario
K1A 0G2

Mrs. Heather Neufeld
Institute for Research on Public Policy
3771 Haro Road
Victoria, British Columbia
V8P 5C3

Professor Ken Norrie
Department of Economics
University of Alberta
Edmonton, Alberta
T6G 2H4

Professor Kristian Palda
School of Business
Queen's University
Kingston, Ontario
K7L 3N6

Professor John Palmer
Department of Economics
University of Western Ontario
London, Ontario
N6A 5C2

Mr. Joseph Pietroski
Vice President & Secretary
The Manufacturers Life
Insurance Company
200 Bloor Street East
Toronto, Ontario
M4W 1E5

Dr. Mario Polèse
Directeur, INRS-Urbanisation
Institut national de la recherche
scientifique
Université du Québec
3465 rue Durocher
Montréal, Québec
H2X 2C6

Mr. Alex Pursaga
Senior Service Sector Review Officer
Manitoba Department of Industry,
Trade and Technology
Room 500 - 155 Carlton Street
Winnipeg, Manitoba
R3C 3H8

Mr. Somshwer Rao
Trade Study Group
Economic Council of Canada
P.O. Box 527
333 River Road
Ottawa, Ontario
K1P 5V6

Mr. Dan Roseman
Research Associate
International Economics Program
Institute for Research on Public Policy
275 Slater Street, 5th Floor
Ottawa, Ontario
K1A 5H9

Ms. France St-Hilaire
Researcher
Institute for Research on Public Policy
c/o 2326 Woking Crescent
Mississauga, Ontario
L5K 1Z7

Professor Brian Scarfe
Department of Economics
University of Alberta
8-14 HM Tory Building
Edmonton, Alberta
T6G 2H4

Mrs. Lindsay Shaddy
Policy Analyst
Canadian Bankers Association
P.O. Box 348
2 First Canadian Place
Toronto, Ontario
M5X 1E1

Ms. Brenda Siegel
14 1/2 Adelaide Street
Ottawa, Ontario
K1S 3S1

Professor Douglas Smith
Department of Economics
Carleton University
Ottawa, Ontario
K1S 5B6

Mr. Murray Smith
Director
International Economics Program
Institute for Research on Public Policy
275 Slater Street, 5th Floor
Ottawa, Ontario
K1P 5H9

Mr. Robert Smith
Director
Industrial Policy Directorate
Regional Industrial Expansion
235 Queen Street, 5th Floor
Ottawa, Ontario
K1A 0H5

Professor William Stanbury
Department of Economics
University of British Columbia
Room 369, Henry Angus Building
2053 Main Mall
Vancouver, British Columbia
V6T 1Z2

Ms. Debra P. Steger
Fraser & Beatty
Barristers & Solicitors
180 Elgin Street
Suite 1200
Ottawa, Ontario
K2P 2K7

Mr. S.K. Suri
Chief Economist
London Life
255 Dufferin Avenue
London, Ontario
N6A 4K1

Mr. Douglas Taylor
195 Wellesley Street East
Apt. 606
Toronto, Ontario
M5X 1E9

Mr. Fernando Traficante
Senior Policy Advisor
Industry and Trade Policy
Ministry of Industry Trade
and Technology
7th Floor, Hearst Block
Queen's Park
900 Bay Street
Toronto, Ontario
M7A 2E1

Mr. Duane VanBeselaere
Director
Services & General Trade Policy Division
Trade Policy Bureau
Economic & Trade Policy Branch
(A-EFB)
External Affairs
125 Sussex Drive
Ottawa, Ontario
K1A 0G2

Dr. Michael Walker
Director
The Fraser Institute
626 Bute Street
Vancouver, British Columbia
V6E 3M1

Professor William Watson
Department of Economics
McGill University
Stephen Leacock Building
855 Sherbrooke Street West
Montréal, Québec
H3A 2T7

Professor Klaus Weiermair
Faculty of Administrative Studies
York University
4700 Keele Street
North York, Ontario
M3J 1P3

Professor John Whalley
Department of Economics
University of Western Ontario
London, Ontario
N6A 5C2

Members of the Institute

Board of Directors

The Honourable John B. Aird, O.C.,Q.C. (Honorary Chairman)
Aird & Berlis, Toronto
Roger Charbonneau, O.C., (Chairman)
Président du conseil, Président et Chef de la Direction Interim
NOVERCO, Montréal
Rosalie Abella
Chairman, Ontario Labour Relations Board, Toronto
Dr. Robert Bandeen
President and Chief Executive Officer, Cluny Corporation, Toronto
Nan-Bowles de Gaspé Beaubien
Vice-présidente, ressources humaines, Télémédia Inc., Montréal
Larry I. Bell
Chairman, B.C. Hydro & Power Authority, Vancouver
Marie Bernier
Montreal
Catherine Callbeck
Callbeck Limited, Central Bedeque, PEI
Allan F. (Chip) Collins
Special Advisor, Provincial Treasurer of Alberta, Edmonton
Peter C. Dobell
Director, Parliamentary Centre for Foreign Affairs and Foreign Trade, Ottawa
Dr. Rod Dobell
President, The Institute for Research on Public Policy, Victoria
Peter C. Godsoe
Vice Chairman of the Board, The Bank of Nova Scotia, Toronto
Dianne I. Hall
Vancouver

David Hennigar
Atlantic Regional Director, Burns Fry Limited, Halifax
Roland J. Lutes, C.A.
Clarkson Gordon, Toronto
Professor Susan McCorquodale
Department of Political Science, University of Windsor
Dr. Tom Pepper
Pepper Consultants Ltd., Saskatoon
Guy Roberge, C.R.
Conseil, Clarkson, Tétrault, Ottawa
Robert K. Siddall
Senior Vice-President & Secretary, The Great-West Life Assurance Co., Winnipeg
The Honourable Robert L. Stanfield, P.C., Q.C.
Ottawa
Marc-Adélard Tremblay, O.C.
Département d'anthropologie, Université Laval, Sainte-Foy

President
Rod Dobell

Vice-President and Secretary-Treasurer
Peter C. Dobell

Investment Committee
Peter C. Godsoe, Chairman
Robert Bandeen
Peter C. Dobell
Michael Koerner

Executive Committee
Dr. Roger Charbonneau, O.C., (Chairman)
Dr. Robert Bandeen
Peter C. Dobell
Dr. Rod Dobell
Roland J. Lutes
The Honourable Robert L. Stanfield

Council of Trustees

Members at Large

Dr. Ronald L. Watts, O.C. (Chairman)
Department of Political Studies, Queen's University, Kingston
Doris H. Anderson, O.C.
Toronto
Dr. Roger A. Blais, O.C.
Directeur, R-D coopératifs, École Polytechnique de Montréal
Jill Bodkin
Director of Financial Services, Clarkson Gordon, Vancouver
George Cooper, Q.C.
McInnes, Cooper and Robertson, Halifax

James S. Cowan, Q.C.
Partner, Stewart, MacKeen & Covert, Halifax
V. Edward Daughney
President, First City Trust Company, Vancouver
Dr. H.E. Duckworth, O.C.
Chancellor, University of Manitoba, Winnipeg
Dr. Stefan Dupré, O.C.
Department of Political Science, University of Toronto
Marc Eliesen
Chairperson and Executive Director, Manitoba Energy Authority, Winnipeg
Emery Fanjoy
Secretary, Council of Maritime Premiers, Halifax
Maureen Farrow
C.D. Howe Institute, Toronto
Dr. James D. Fleck
Faculty of Management Studies, University of Toronto
Dr. Allan K. Gillmore
Executive Director, Association of Universities and Colleges of Canada, Ottawa
Margaret C. Harris
Past President, The National Council of Women of Canada, Saskatoon
Michael Hicks
Principal, Centre for Executive Development, Ottawa
Dr. David Hopper
Washington, D.C.
Richard W. Johnston
President, Spencer Stuart & Associates, Toronto
Dr. Leon Katz, O.C.
Saskatoon
Dr. David Leighton
Director, National Centre for Management Research and Development
University of Western Ontario, London
Terrence Mactaggart
Managing Director, Sound Linked Data Inc., Mississauga
Judith Maxwell
Chairman, Economic Council of Canada, Vanier
Milan Nastich
Canadian General Investments Ltd., Toronto
Professor William A. W. Neilson
Dean, Faculty of Law, University of Victoria
Roderick C. Nolan, P.Eng.
President, Neill & Gunter Limited, Fredericton
Robert J. Olivero
United Nations Secretariat, New York
Gordon F. Osbaldeston, O.C.
Senior Fellow, School of Business Administration, University of Western Ontario, London
Garnet T. Page, O.C.
Calgary
Jean-Guy Paquet
Vice-président exécutif, La Laurentienne, mutuelle d'Assurance, Québec
Professor Marilyn L. Pilkington
Osgoode Hall Law School, Toronto
Eldon D. Thompson
President, Telesat, Vanier
Dr. Israel Unger
Dean of Science, University of New Brunswick, Fredericton

Dr. Norman Wagner
President and Vice-Chancellor, University of Calgary
Ida Wasacase, C.M.
Winnipeg
Dr. R. Sherman Weaver
Director, Alberta Environmental Centre, Vegreville
Dr. Blossom Wigdor
Director, Program in Gerontology, University of Toronto

Government Representatives

Roger Burke, Prince Edward Island
Joseph H. Clarke, Nova Scotia
Hershell Ezrin, Ontario
Allan Filmer, British Columbia
George Ford, Manitoba
Ron Hewitt, Saskatchewan
Barry Mellon, Alberta
Geoffrey Norquay, Canada
Eloise Spitzer, Yukon
Barry Toole, New Brunswick
Gérard Veilleux, Canada
Louise Vertes, Northwest Territories

Institute Management

Rod Dobell	President
Peter Dobell	Vice-President and Secretary-Treasurer
Yvon Gasse	Director, Small & Medium-Sized Business Program
Barry Lesser	Director, Information Society Studies Program
Jim MacNeill	Director, Environment & Sustainable Development Program
Shirley Seward	Director, Studies in Social Policy
Murray Smith	Director, International Economics Program
Jeffrey Holmes	Director, Communications
Parker Staples	Director, Financial Services
Tom Kent	Editor, *Policy Options Politiques*

Fellows- and Scholars-in-Residence:

Edgar Gallant	Fellow-in-Residence
Tom Kent	Fellow-in-Residence
Eric Kierans	Fellow-in-Residence
Jean-Luc Pepin	Fellow-in-Residence
Gordon Robertson	Fellow-in-Residence
Alan Maslove	Scholar-in-Residence
James Taylor	Scholar-in-Residence
David Cameron	Scholar-in-Residence
Dennis Protti	Scholar-in-Residence
Eugene M. Nesmith	Executive-in-Residence

Publications Available —February 1988

Order Address

The Institute for Research on Public Policy
P.O. Box 3670 South
Halifax, Nova Scotia
B3J 3K6

Leroy O. Stone & Claude Marceau	*Canadian Population Trends and Public Policy Through the 1980s.* 1977 $4.00
Raymond Breton	*The Canadian Condition: A Guide to Research in Public Policy.* 1977 $2.95
J.W. Rowley & W.T. Stanbury (eds.)	*Competition Policy in Canada: Stage II, Bill C-13.* 1978 $12.95
C.F. Smart & W.T. Stanbury (eds.)	*Studies on Crisis Management.* 1978 $9.95
W.T. Stanbury (ed.)	*Studies on Regulation in Canada.* 1978 $9.95
Michael Hudson	*Canada in the New Monetary Order: Borrow? Devalue? Restructure!* 1978 $6.95
David K. Foot (ed.)	*Public Employment and Compensation in Canada: Myths and Realities.* 1978 $10.95
Raymond Breton & Gail Grant Akian	*Urban Institutions and People of Indian Ancestry: Suggestions for Research.* 1979 $3.00

Thomas H. Atkinson	*Trends in Life Satisfaction Among Canadians, 1968-1977.* 1979 $3.00
W.E. Cundiff & Mado Reid (eds.)	*Issues in Canadian/U.S. Transborder Computer Data Flows.* 1979 $6.50
Meyer W. Bucovetsky (ed.)	*Studies in Public Employment and Compensation in Canada.* 1979 $14.95
Richard French & André Béliveau	*The RCMP and the Management of National Security.* 1979 $6.95
G. Bruce Doern & Allan M. Maslove (eds.)	*The Public Evaluation of Government Spending.* 1979 $10.95
Leroy O. Stone & Michael J. MacLean	*Future Income Prospects for Canada's Senior Citizens.* 1979 $7.95
Richard M. Bird	*The Growth of Public Employment in Canada.* 1979 $12.95
Richard J. Schultz	*Federalism and the Regulatory Process.* 1979 $1.50
Richard J. Schultz	*Le fédéralisme et le processus de réglementation.* 1979 $1.50
Elliot J. Feldman & Neil Nevitte (eds.)	*The Future of North America: Canada, the United States, and Quebec Nationalism.* 1979 $7.95
David R. Protheroe	*Imports and Politics: Trade Decision Making in Canada, 1968-1979.* 1980 $8.95
G. Bruce Doern	*Government Intervention in the Canadian Nuclear Industry.* 1980 $8.95
G. Bruce Doern & Robert W. Morrison (eds.)	*Canadian Nuclear Policies.* 1980 $14.95
Allan M. Maslove & Gene Swimmer	*Wage Controls in Canada: 1975-78: A Study of Public Decision Making.* 1980 $11.95
T. Gregory Kane	*Consumers and the Regulators: Intervention in the Federal Regulatory Process.* 1980 $10.95
Réjean Lachapelle & Jacques Henripin	*La situation démolinguistique au Canada: évolution passée et prospective.* 1980 $24.95
Albert Breton & Anthony Scott	*The Design of Federations.* 1980 $6.95
A.R. Bailey & D.G. Hull	*The Way Out: A More Revenue-Dependent Public Sector and How It Might Revitalize the Process of Governing.* 1980 $6.95
David R. Harvey	*Christmas Turkey or Prairie Vulture? An Economic Analysis of the Crow's Nest Pass Grain Rates.* 1980 $10.95
Donald G. Cartwright	*Official Language Populations in Canada: Patterns and Contacts.* 1980 $4.95

Richard M. Bird	*Taxing Corporations.* 1980 $6.95
Leroy O. Stone & Susan Fletcher	*A Profile of Canada's Older Population.* 1980 $7.95
Peter N. Nemetz (ed.)	*Resource Policy: International Perspectives.* 1980 $18.95
Keith A.J. Hay (ed.)	*Canadian Perspectives on Economic Relations With Japan.* 1980 $18.95
Dhiru Patel	*Dealing With Interracial Conflict: Policy Alternatives.* 1980 $5.95
Raymond Breton & Gail Grant	*La langue de travail au Québec : synthèse de la recherche sur la rencontre de deux langues.* 1981 $10.95
David M. Cameron (ed.)	*Regionalism and Supranationalism: Challenges and Alternatives to the Nation-State in Canada and Europe.* 1981 $9.95
Heather Menzies	*Women and the Chip: Case Studies of the Effects of Information on Employment in Canada.* 1981 $8.95
H.V. Kroeker (ed.)	*Sovereign People or Sovereign Governments.* 1981 $12.95
Peter Aucoin (ed.)	*The Politics and Management of Restraint in Government.* 1981 $17.95
Nicole S. Morgan	*Nowhere to Go? Possible Consequences of the Demographic Imbalance in Decision-Making Groups of the Federal Public Service.* 1981 $8.95
Nicole S. Morgan	*Où aller? Les conséquences prévisibles des déséquilibres démographiques chez les groupes de décision de la fonction publique fédérale.* 1981 $8.95
Raymond Breton, Jeffrey G. Reitz & Victor F. Valentine	*Les frontières culturelles et la cohésion du Canada.* 1981 $18.95
Peter N. Nemetz (ed.)	*Energy Crisis: Policy Response.* 1981 $10.95
James Gillies	*Where Business Fails.* 1981 $9.95
Allan Tupper & G. Bruce Doern (eds.)	*Public Corporations and Public Policy in Canada.* 1981 $16.95
Réjean Lachapelle & Jacques Henripin	*The Demolinguistic Situation in Canada: Past Trends and Future Prospects.* 1982 $24.95
Irving Brecher	*Canada's Competition Policy Revisited: Some New Thoughts on an Old Story.* 1982 $3.00
Ian McAllister	*Regional Development and the European Community: A Canadian Perspective.* 1982 $13.95

Donald J. Daly	*Canada in an Uncertain World Economic Environment.* 1982 $3.00
W.T. Stanbury & Fred Thompson	*Regulatory Reform in Canada.* 1982 $7.95
Robert J. Buchan, C. Christopher Johnston, T. Gregory Kane, Barry Lesser, Richard J. Schultz & W.T. Stanbury	*Telecommunications Regulation and the Constitution.* 1982 $18.95
Rodney de C. Grey	*United States Trade Policy Legislation: A Canadian View.* 1982 $7.95
John Quinn & Philip Slayton (eds.)	*Non-Tariff Barriers After the Tokyo Round.* 1982 $17.95
Stanley M. Beck & Ivan Bernier (eds.)	*Canada and the New Constitution: The Unfinished Agenda.* 2 vols. 1983 $10.95 (set)
R. Brian Woodrow & Kenneth B. Woodside (eds.)	*The Introduction of Pay-TV in Canada: Issues and Implications.* 1983 $14.95
E.P. Weeks & L. Mazany	*The Future of the Atlantic Fisheries.* 1983 $5.00
Douglas D. Purvis (ed.), assisted by Frances Chambers	*The Canadian Balance of Payments: Perspectives and Policy Issues.* 1983 $24.95
Roy A. Matthews	*Canada and the "Little Dragons": An Analysis of Economic Developments in Hong Kong, Taiwan, and South Korea and the Challenge/Opportunity They Present for Canadian Interests in the 1980s.* 1983 $11.95
Charles Pearson & Gerry Salembier	*Trade, Employment, and Adjustment.* 1983 $5.00
Steven Globerman	*Cultural Regulation in Canada.* 1983 $11.95
F.R. Flatters & R.G. Lipsey	*Common Ground for the Canadian Common Market.* 1983 $5.00
Frank Bunn, assisted by U. Domb, D. Huntley, H. Mills, H. Silverstein	*Oceans from Space: Towards the Management of Our Coastal Zones.* 1983 $5.00
C.D. Shearing & P.C. Stenning	*Private Security and Private Justice: The Challenge of the 80s.* 1983 $5.00
Jacob Finkelman & Shirley B. Goldenberg	*Collective Bargaining in the Public Service: The Federal Experience in Canada.* 2 vols. 1983 $29.95 (set)
Gail Grant	*The Concrete Reserve: Corporate Programs for Indians in the Urban Work Place.* 1983 $5.00
Owen Adams & Russell Wilkins	*Healthfulness of Life.* 1983 $8.00

Yoshi Tsurumi with Rebecca R. Tsurumi	*Sogoshosha: Engines of Export-Based Growth.* (Revised Edition). 1984 $10.95
Raymond Breton & Gail Grant (eds.)	*The Dynamics of Government Programs for Urban Indians in the Prairie Provinces.* 1984 $19.95
Frank Stone	*Canada, The GATT and the International Trade System.* 1984 $15.00
Pierre Sauvé	*Private Bank Lending and Developing-Country Debt.* 1984 $10.00
Mark Thompson & Gene Swimmer	*Conflict or Compromise: The Future of Public Sector Industrial Relations.* 1984 $15.00
Samuel Wex	*Instead of FIRA: Autonomy for Canadian Subsidiaries?* 1984 $8.00
R.J. Wonnacott	*Selected New Developments in International Trade Theory.* 1984 $7.00
R.J. Wonnacott	*Aggressive US Reciprocity Evaluated with a New Analytical Approach to Trade Conflicts.* 1984 $8.00
Richard W. Wright	*Japanese Business in Canada: The Elusive Alliance.* 1984 $12.00
Paul K. Gorecki & W.T. Stanbury	*The Objectives of Canadian Competition Policy, 1888-1983.* 1984 $15.00
Michael Hart	*Some Thoughts on Canada-United States Sectoral Free Trade.* 1985 $7.00
J. Peter Meekison Roy J. Romanow & William D. Moull	*Origins and Meaning of Section 92A: The 1982 Constitutional Amendment on Resources.* 1985 $10.00
Conference Papers	*Canada and International Trade. Volume One: Major Issues of Canadian Trade Policy. Volume Two: Canada and the Pacific Rim.* 1985 $25.00 (set)
A.E. Safarian	*Foreign Direct Investment: A Survey of Canadian Research.* 1985 $8.00
Joseph R. D'Cruz & James D. Fleck	*Canada Can Compete! Strategic Management of the Canadian Industrial Portfolio.* 1985 $18.00
Barry Lesser & Louis Vagianos	*Computer Communications and the Mass Market in Canada.* 1985 $10.00
W.R. Hines	*Trade Policy Making in Canada: Are We Doing it Right?* 1985 $10.00
Bertrand Nadeau	*Britain's Entry into the European Economic Community and its Effect on Canada's Agricultural Exports.* 1985 $10.00
Paul B. Huber	*Promoting Timber Cropping: Policies Toward Non-Industrial Forest Owners in New Brunswick.* 1985 $10.00

Gordon Robertson	*Northern Provinces: A Mistaken Goal.* 1985 $8.00
Petr Hanel	*La technologie et les exportations canadiennes du matériel pour la filière bois-papier.* 1985 $20.00
Russel M. Wills, Steven Globerman & Peter J. Booth	*Software Policies for Growth and Export.* 1986 $15.00
Marc Malone	*Une place pour le Québec au Canada.* 1986 $20.00
A. R. Dobell & S. H. Mansbridge	*The Social Policy Process in Canada.* 1986 $8.00
William D. Shipman (ed.)	*Trade and Investment Across the Northeast Boundary: Quebec, the Atlantic Provinces, and New England.* 1986 $20.00
Nicole Morgan	*Implosion: An Analysis of the Growth of the Federal Public Service in Canada (1945-1985).* 1986 $20.00
Nicole Morgan	*Implosion: analyse de la croissance de la Fonction publique fédérale canadienne (1945-1985).* 1986 $20.00
William A.W. Neilson & Chad Gaffield (eds.)	*Universities in Crisis: A Mediaeval Institution in the Twenty-first Century.* 1986 $20.00
Fred Wien	*Rebuilding the Economic Base of Indian Communities: The Micmac in Nova Scotia.* 1986 $20.00
D.M. Daly & D.C. MacCharles	*Canadian Manufactured Exports: Constraints and Opportunities.* 1986 $20.00
Gerald d'Amboise, Yvon Gasse & Rob Dainow	*The Smaller, Independent Manufacturer: 12 Quebec Case Studies.* 1986 $20.00
David J. Roy & Maurice A.M. de Wachter	*The Life Technologies and Public Policy.* 1986 $20.00
David Feeny, Gordon Guyatt & Peter Tugwell (eds.)	*Health Care Technology: Effectiveness, Efficiency, and Public Policy.* 1986 $20.00
International Symposium	*Les répercussions de l'informatisation en milieu de travail / The Impact of New Information Technologies on the Workplace.* 1986 $20.00
N.G. Papadopoulos	*Canada and the European Community: An Uncomfortable Partnership?* 1986 $15.00
W.T. Stanbury (ed.)	*Telecommunications Policy and Regulation: The Impact of Competition and Technological Change.* 1986 $22.00
James Gillies	*Facing Reality: Consultation, Consensus and Making Economic Policy for the 21st Century.* 1986 $15.95

International Seminar	*The Management of Water Resources – Proceedings / La gestion des ressources en eau – Actes.* 1986 $20.00
William J. Coffey & Mario Polèse (eds.)	*Still Living Together: Recent Trends and Future Directions in Canadian Regional Development.* 1987 $25.00
Bryan Schwartz	*First Principles, Second Thoughts: Aboriginal Peoples, Constitutional Reform and Canadian Statecraft.* 1987 $25.00
G.E. Salembier, Andrew R. Moroz and Frank Stone	*The Canadian Import File: Trade, Protection and Adjustment.* 1987 $20.00
Emer Killean	*Equality in the Economy: A Synthesis of the Proceedings of a Workshop / L'égalitarisme et l'économie : synthèse des débats d'atelier.* 1987 $10.00
Barry Lesser & Pamela Hall	*Telecommunications Services and Regional Development: The Case of Atlantic Canada.* 1987 $20.00
Stephen Brooks	*Who's in Charge? The Mixed Ownership Corporation in Canada.* 1987 $20.00
Richard W. Wright with Susan Huggett	*A Yen for Profit: Canadian Financial Institutions in Japan.* 1987 $15.00
Thomas Gunton and John Richards (eds.)	*Resource Rents and Public Policy in Western Canada.* 1987 $20.00
Shirley B. Seward and Mario Iacobacci (eds.)	*Approaches to Income Security Reform.* 1987 $10.00
Louis Raymond	*Validité des systèmes d'information dans les PME: analyse et perspectives.* 1987 20,00 $
Edward R. Fried, Frank Stone and Philip H. Trezise (eds.)	*Building a Canadian-American Free Trade Area.* 1987 $15.00
A.R. Riggs & Tom Velk (eds.)	*Canadian-American Free Trade: Historical, Political and Economic Dimensions.* 1987 $15.00
Robert M. Stern, Philip H. Trezise and John Whalley (eds.)	*Perspectives on a U.S.-Canadian Free Trade Agreement.* 1987 $17.00
Jacques Saint-Pierre and Jean-Marc Suret	*Endettement de la PME : état de la situation et rôle de la fiscalité.* 1987 $15.00
Shirley B. Seward (ed.)	*The Future of Social Welfare Systems in Canada and the United Kingdom.* 1987 $22.00
Michael B. Percy and Christian Yoder	*The Softwood Lumber Dispute and Canada-U.S. Trade in Natural Resources.* 1987 $20.00
Allan M. Maslove and Stanley L. Winer (eds.)	*Knocking on the Back Door: Canadian Perspectives on the Political Economy of Freer Trade with the United States.* 1987 $20.00

Alexander Kemp (with postscript by Campbell Watkins)	*Petroleum Rent Collection around the World.* 1987 $30.00
Murray G. Smith and Frank Stone (eds.)	*Assessing the Canada-U.S. Free Trade Agreement.* 1987. $15.00
David W. Conklin and France St-Hilaire	*Canadian High-Tech in a New World Economy: A Case Study of Information Technology.* 1988 $25.00
John W. Langford and K. Lorne Brownsey (eds.)	*The Changing Shape of Government in the Asia-Pacific Region.* 1988. $22.00
James J. McRae and Martine M. Desbois (eds.)	*Traded and Non-traded Services: Theory, Measurement and Policy.* 1988. $22.00

The Institute for Research on Public Policy
L'Institut de recherches politiques

A national, independent, research organization
Un organisme de recherche national et indépendant

Créé en 1972, l'Institut de recherches politiques est un organisme national dont l'indépendance et l'autonomie sont assurés grâce à des revenus provenant d'un fonds de dotation auquel souscrivent les gouvernements fédéral et provinciaux ainsi que le secteur privé. L'Institut obtient en outre des subventions et des contrats des gouvernements, des compagnies et des fondations afin de réaliser certains projets de recherche.

La raison d'être de l'Institut est triple :

- Servir de catalyseur au sein de la collectivité nationale en favorisant un débat public éclairé sur les principales questions d'intérêt général.
- Stimuler la participation de tous les éléments de la collectivité nationale à l'élaboration de la politique d'État.
- Trouver des solutions réalisables aux importants problèmes d'ordre politique afin de contribuer à l'élaboration d'une saine politique d'État.

Un Conseil d'administration, chargé de la décision, et une Commission de direction, responsable d'éclairer le Conseil sur l'orientation de la recherche, assurent la direction de l'Institut. L'administration courante des politiques, des programmes et du personnel relève du président.

L'Institut fonctionne de manière décentralisée et retient les services de chercheurs en divers points du Canada, s'assurant ainsi que toutes les régions contribuent aux recherches.

L'Institut cherche à favoriser, dans la mesure du possible, la compréhension et la discussion publiques des questions d'envergure nationale, controversées ou non. Il publie les conclusions de ses recherches avec clarté et impartialité. Les recommandations ou les conclusions énoncées dans les publications de l'Institut sont strictement celles de l'auteur et n'engagent aucunement le conseil d'administration, la commission de direction ou les bailleurs de fonds.

Le président assume la responsabilité ultime de publier un manuscrit au nom de l'Institut. Il jouit à cette fin des conseils du personnel de l'Institut et de critiques de l'extérieur quant à l'exactitude et l'objectivité du texte. Ne sont publiés que les textes qui traitent de façon compétente d'un sujet digne de la réflexion du public.

Les publications de l'Institut paraissent dans la langue de l'auteur et sont accompagnées d'un abrégé dans les langues officielles du Canada.

Traded and Non-traded Services: Theory, Measurement and Policy

Edited by
James J. McRae and Martine M. Desbois

Conceptual and empirical work on the role played by the service sector to the process of national and regional economic development has had a very difficult time escaping from the views of Adam Smith. The father of economics left no doubt that he regarded the service industries as unproductive, and contributing nothing to the process of economic growth. However, the continued growth of domestic service sector employment, and the increasing volume of international service transactions, has made the continued neglect of these industries hard to justify. The papers prepared for this conference represent a step toward a better understanding of the perplexing phenomena of production and trade in services.

ISBN 0-88645-066-7 **$22.00**

The Institute for Research on Public Policy
L'Institut de recherches politiques
A national, independent, research organization
Un organisme de recherche national et indépendant